BARTEC

Mobile Computing

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Mobile Computing

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Mobile Computer

■ Barcode- and RFID Reading ■ WLAN ■ Bluetooth

For use in explosion-proof areas we have developed the explosion-protected version of the Mobile Computer series in co-operation with Motorola.

These high-performance Mobile Computers are IECEx, ATEX and UL certified for use in hazardous areas.

The MC device series is easy to handle, based on the usual Windows® Mobile environment and the real-time data exchange through WLAN or Bluetooth.

Application
The well-known mobile computer from BARTEC work successful for years in optimizing work processings in Ex areas.

Pharmaceuticals
Manufacturers and suppliers of raw materials required for production e.g. medication

Petrochemicals
Production, processing, delivery

Automotive industry
Manufacturers and suppliers of coatings, paint shops

Food and beverages
Manufacturers and suppliers of aromatic substances

Make your decision for a strong partner! BARTEC, you can rely on for safe and comfortable mobile computer.

BARTEC. Innovative. Efficient.

03-0330-0636-11/11-BAT-D316909/1

MC 9090^{ex} — Zone 1/Div 1

- WLAN
- Bluetooth
- RFID frequenzencies LF, HF, UHF
- Colour display with touchscreen
- Various scan engines
- Barcode- and RFID-reader in one unit
- Barcode reading up to 12 m distance

MC 9190^{ex}-NI — Zone 2/Div 2

- WLAN
- Bluetooth
- RFID frequenzencies LF, HF, UHF
- Various scan engines
- Barcode- and RFID-reader in one unit
- Barcode reading up to 12 m distance

MC 95xx^{ex}-NI — Zone 2/Div 2

- GPS
- WWAN-GSM/CDMA
- 3.0 Megapixel camera
- Colour display with touchscreen and LED backlighting
- Various scan engines
- VoIP (Voice over IP)

MC 75A^{ex}-NI — Zone 2/Div 2

- GPS
- WWAN-GSM/CDMA
- 3.2 Megapixel camera
- Colour display with touchscreen and LED backlighting
- Various scan engines
- VoIP (Voice over IP)

03-0330-0636-11/11-BAT-D316909/2

MC 9090ex-G

with 1D-Long Range Scan Engine

Features

- International approvals for global usability
- Barcode capture up to 12 m
- WLAN radio standard IEEE 802.11 a/b/g
- Easy battery changing in the Ex area
- Expanded storage capacity with replaceable SD card
- Various versions of replaceable keyboards
- Compatibility with MC9090 from Motorola
- Service contracts

Description

The MC 9090ex-G Mobile Computer with its pistol grip is a robust device for reliable barcode scanning in hazardous (potentially explosive) areas.

The scan trigger is conveniently positioned at the pistol grip. Thus barcodes can be captured with only one hand. The integrated radio module enables real time data access to your host system.

The MC 9090ex-G combines the strength of Microsoft's Pocket PC platform with the power of the Intel® XScale™ PXA270 processor with 624 MHz.

A further highlight is the large easy-to-read 1/4 VGA color display with touchscreen technology. The MC 9090ex-G is working with the IEEE 802.11a/b/g radio standard (direct sequence).

Market	Applications	Users
Automobile industry (suppliers of paintwork, for paint shops, etc.)	Material flow monitoring	**Dispatch, receiving and stock management departments** Personnel who have received instruction on the handling of potentially explosive substances.
Food and beverages (suppliers of aromatic substances, etc.)	Production control	
Petrochemicals (from production through further processing to delivery)	Supplier chain management	**Maintenance and repair** Personnel who have received instruction for deployment in potentially explosive areas.
Pharmaceuticals (suppliers of individual components required for production e. g. medication)	Incoming/outgoing goods, inventory management	**Production area** Personnel who have received instruction on the handling of potentially explosive substances.
	Safety tests	
	Spare parts tracking	
	Maintenance/repair work	
	Workshop communication	
	Conformity assessment	

Explosion protection

ATEX **Ex protection type**
Ⓔx II 2G Ex q [ib] IIC T4

Certification
PTB 05 ATEX 2055

For further details see EC Type Certification.

IECEx **Ex protection type**
Ex q [ib] IIC T4

Certification
IECEx PTB 08.0012

For further details see IECEx Certificate of Conformity.

Other variants are available for:

- Brazil, Japan, Canada, Russia, South Africa and USA
- Mining EU

Technical data

Keyboard version
28, 33, 43 and 53 keys

Display
3.8", 1/4 VGA colour display
with touchscreen 240 x 320 pixels

Barcode options
SE 1524: 1D-Long Range Scan Engine
Reading range: 10 cm to 12 m

Dimensions (height x width x depth)
231 mm x 91 mm x 193 mm
9.1 inch x 3.6 inch x 7.6 inch

Weight
approx. 1060 g
approx. 34 oz

Ambient temperature
-20 °C to +40 °C
-4 °F to +104 °F

Storage temperature
-40 °C to +70 °C
-40 °F to +158 °F

Charging temperature
0 °C to +40 °C
+32 °F to +104 °F

Humidity
5 % to 95 % (non-condensing)

Protection class (EN 60529)
IP 54

Processor
Intel® XScale™ PXA270 Processor/624 MHz

Memory
128/128 MB RAM/ROM
with the option of expansion with SD card:
512 MB, 1 GB or 2 GB

Operating system
Windows Mobile 2005

03-0330-0490/B-11/11-BAT-D275531/1

Power supply
Li-ion battery 17-A1Z0-0001
with 7.4 V/2200 mAh
Battery can be changed in the Ex area!

Backup battery
Ni-MH battery (rechargeable)
3.6 V/15 mAh

Interfaces
- RS232
- USB

Application development
SDK available from the Symbol Developer Central Website

Audio System
Integrated microphone and loudspeaker

The MC 9090ex-G Mobile Computer with the 1D-Long Range Scan Engine recognises the following 1D barcodes:

Code 11	Interleaved 2 of 5
Code 39	MSI
Code 93	UPCA
Code 128	UPCE
Codabar	UPC/EAN supplementals
Coupon Code	Trioptic 39
Chinese 2 of 5	RSS-14
Discrete 2 of 5	RSS Expanded
EAN-8	RSS Limited
EAN-13	Webcode

Wireless data communication (WLAN)

Radio standard
IEEE 802.11a/b/g

Data rate/frequency range
IEEE802.11a: up to 54 Mbit/s - 5 GHz
IEEE802.11b: up to 11 Mbit/s - 2.4 GHz
IEEE802.11g: up to 54 Mbit/s - 2.4 GHz

Output power
100 mW (Germany and International)

Antenna
Integrated in the device

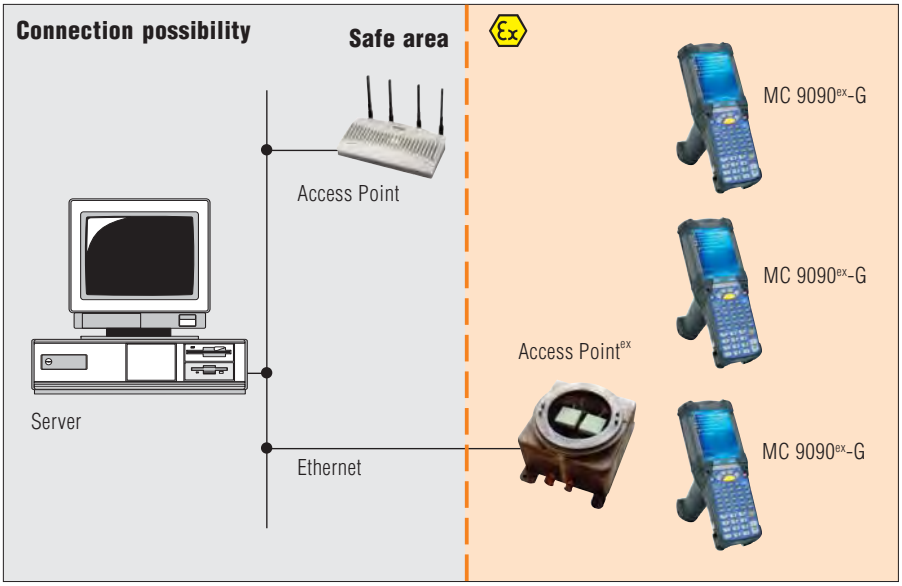
Note
The respective radio frequencies and usable channels depend on the country-specific regulations.

Bluetooth (WPAN)

Bluetooth version 1.2 with BT Explorer (including manager)

Max. data rate
1 Mbit/s

Antenna
Integrated in the device



Selection chart

Version	Code no.
28 keys, numeric	A
33 keys, numeric	L
43 keys, alphanumeric	F
53 keys, alphanumeric	E
53 keys with layout for VT emulation	G
53 keys with layout for 3270 emulation	H
53 keys with layout for 5250 emulation	J

Complete order no. 17-A119-0GJ0/HC ☐ FA600
MC 9090ex-G with 1D-Long Range Scan Engine
including Li-ion battery (1 piece)

Please insert correct code. Technical data subject to change without notice.
Note: All variants without accessories.
You will find the accessories with order details on the accessories pages.

03-0330-0490/B-11/11-BAT-D275531/2

MC 9090ex-K

with 1D-Standard Range Scan Engine

Features

- International approvals for global usability
- WLAN radio standard IEEE 802.11 a/b/g
- Easy battery changing in the Ex area
- Expanded storage capacity with replaceable SD card
- Various versions of replaceable keyboards
- Compatibility with MC9090 from Motorola
- Service contracts

Description

The MC 9090ex-K Mobile Computer is a robust device for reliable barcode scanning in hazardous (potentially explosive) areas.

The scan trigger is positioned in such a way that barcodes can be captured very conveniently. The integrated radio module enables real time data access to your host system.

The MC 9090ex-K combines the strength of Microsoft's Pocket PC platform with the power of the Intel® XScale™ PXA270 processor with 624 MHz.

A further highlight is the large easy-to-read 1/4 VGA color display with touchscreen technology. The MC 9090ex-K is working with the IEEE 802.11a/b/g radio standard (direct sequence).

Market	Applications	Users
Automobile industry (suppliers of paintwork, for paint shops, etc.) **Food and beverages** (suppliers of aromatic substances, etc.) **Petrochemicals** (from production through further processing to delivery) **Pharmaceuticals** (suppliers of individual components required for production e. g. medication)	Material flow monitoring Production control Supplier chain management Incoming/outgoing goods, inventory management Safety tests Spare parts tracking Maintenance/repair work Workshop communication Conformity assessment	**Dispatch, receiving and stock management departments** Personnel who have received instruction on the handling of potentially explosive substances. **Maintenance and repair** Personnel who have received instruction for deployment in potentially explosive areas. **Production area** Personnel who have received instruction on the handling of potentially explosive substances.

Explosion protection

ATEX **Ex protection type**
Ⓔx II 2G Ex q [ib] IIC T4

Certification
PTB 05 ATEX 2055

For further details see EC Type Certification.

IECEx **Ex protection type**
Ex q [ib] IIC T4

Certification
IECEx PTB 08.0012

For further details see IECEx Certificate of Conformity.

Other variants are available for:

- Brazil, Japan, Canada, Russia, South Africa and USA
- Mining EU

Technical data

Keyboard version
28, 33, 43 and 53 keys

Display
3.8", 1/4 VGA colour display
with touchscreen 240 x 320 pixels

Barcode options
SE 950: 1D-Standard Range Scan Engine
Reading range: 10 cm to 120 cm

Dimensions (height x width x depth)
231 mm x 91 mm x 59 mm
9.1 inch x 3.6 inch x 2.3 inch

Weight
approx. 980 g
approx. 31 oz

Ambient temperature
-20 °C to +40 °C
-4 °F to +104 °F

Storage temperature
-40 °C to +70 °C
-40 °F to +158 °F

Charging temperature
0 °C to +40 °C
+32 °F to +104 °F

Humidity
5 % to 95 % (non-condensing)

Protection class (EN 60529)
IP 54

Processor
Intel® XScale™ PXA270 prozessor/624 MHz

Memory
128/128 MB RAM/ROM
with the option of expansion with SD card:
512 MB, 1 GB or 2 GB

Operating system
Windows Mobile 2005

03-0330-0491/C-11/11-BAT-D275532/1

Power supply
Li-ion battery 17-A1Z0-0001
with 7.4 V/2200 mAh
Battery can be changed in the Ex area!

Backup battery
Ni-MH battery (rechargeable)
3.6 V/15 mAh

Interfaces
- RS232
- USB

Application development
SDK available from the Symbol Developer Central Website

Audio System
Integrated microphone and loudspeaker

The MC 9090ex-K Mobile Computer with the 1D-Standard Range Scan Engine recognises the following 1D barcodes:

Code 11	Interleaved 2 of 5
Code 39	MSI
Code 93	UPCA
Code 128	UPCE
Codabar	UPC/EAN supplementals
Coupon Code	Trioptic 39
Chinese 2 of 5	RSS-14
Discrete 2 of 5	RSS Expanded
EAN-8	RSS Limited
EAN-13	Webcode

■ **Wireless data communication (WLAN)**

Radio standard
IEEE 802.11a/b/g

Data rate/frequency range
IEEE802.11a: up to 54 Mbit/s - 5 GHz
IEEE802.11b: up to 11 Mbit/s - 2.4 GHz
IEEE802.11g: up to 54 Mbit/s - 2.4 GHz

Output power
100 mW (Germany and International)

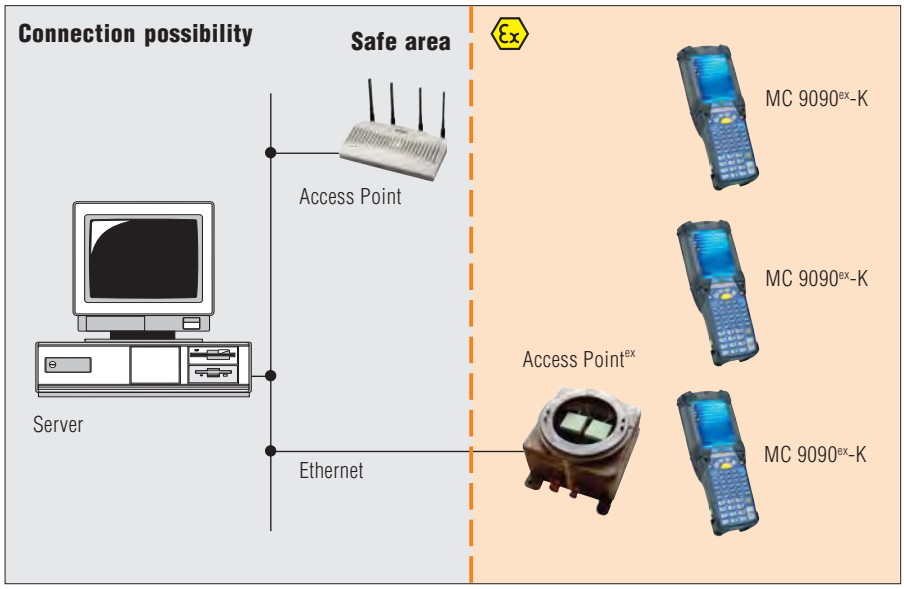
Antenna
Integrated in the device

Note
The respective radio frequencies and usable channels depend on the country-specific regulations.

■ **Bluetooth (WPAN)**
Bluetooth version 1.2 with BT Explorer (including manager)

Max. data rate
1 Mbit/s

Antenna
Integrated in the device



Selection chart

Version	Code no.
28 keys, numeric	A
33 keys, numeric	L
43 keys, alphanumeric	F
53 keys, alphanumeric	E
53 keys with layout for VT emulation	G
53 keys with layout for 3270 emulation	H
53 keys with layout for 5250 emulation	J

Complete order no. 17-A119-0KA0/HC ☐ FA600
MC 9090ex-K with 1D-Standard Range Scan Engine
including Li-ion battery (1 piece)

Please insert correct code. Technical data subject to change without notice.
Note: All variants without accessories.
You will find the accessories with order details on the accessories pages.

03-0330-0491/C-11/11-BAT-D275532/2

MC 9090ex-K

with 1D-/2D-Imager Engine

Features

- International approvals for global usability
- WLAN radio standard IEEE 802.11 a/b/g
- Easy battery changing in the Ex area
- Expanded storage capacity with replaceable SD card
- Various versions of replaceable keyboards
- Compatibility with MC9090 from Motorola
- Service contracts

Description

The MC 9090ex-K Mobile Computer is a robust device for reliable barcode scanning in hazardous areas.

The scan trigger is positioned in such a way that barcodes can be captured very conveniently. The integrated radio module enables real time data access to your host system.

The MC 9090ex-K combines the strength of Microsoft's Pocket PC platform with the power of the Intel® XScale™ PXA270 processor with 624 MHz.

A further highlight is the large easy-to-read 1/4 VGA color display with touchscreen technology. The MC 9090ex-K is working with the IEEE 802.11a/b/g radio standard (direct sequence).

Market	Applications	Users
Automobile industry (suppliers of paintwork, for paint shops, etc.)	Material flow monitoring	**Dispatch, receiving and stock management departments** Personnel who have received instruction on the handling of potentially explosive substances.
Food and beverages (suppliers of aromatic substances, etc.)	Production control	**Maintenance and repair** Personnel who have received instruction for deployment in potentially explosive areas.
Petrochemicals (from production through further processing to delivery)	Supplier chain management	**Production area** Personnel who have received instruction on the handling of potentially explosive substances.
Pharmaceuticals (suppliers of individual components required for production e. g. medication)	Incoming/outgoing goods, inventory management	
	Safety tests	
	Spare parts tracking	
	Maintenance/repair work	
	Workshop communication	
	Conformity assessment	

Explosion protection

ATEX **Ex protection type**
(Ex) II 2G Ex q [ib] IIB T4

Certification
PTB 05 ATEX 2055

For further details see EC Type Certification.

IECEx **Ex protection type**
Ex q [ib] IIB T4

Certification
IECEx PTB 08.0012

For further details see IECEx Certificateof Conformity.

Other variants are available for:
- Brazil, Japan, Canada, Russia, South Africa and USA
- Mining EU

Technical data

Keyboard version
28, 33, 43 and 53 keys

Display
3.8", 1/4 VGA colour display
with touchscreen 240 x 320 pixels

Barcode options
SE 4400: 1D-/2D-Imager Engine
Reading range: approx. 6 cm to 50 cm

Dimensions (height x width x depth)
231 mm x 91 mm x 59 mm
9.1 inch x 3.6 inch x 2.3 inch

Weight
approx. 980 g
approx. 31 oz

Ambient temperature
-20 °C to +40 °C
-4 °F to +104 °F

Storage temperature
-40 °C to +70 °C
-40 °F to +158 °F

Charging temperature
0 °C to +40 °C
+32 °F to +104 °F

Humidity
5 % to 95 % (non-condensing)

Protection class (EN 60529)
IP 54

Processor
Intel® XScale™ PXA270 Processor/624 MHz

Memory
128/128 MB RAM/ROM
with the option of expansion with SD card:
512 MB, 1 GB or 2 GB

Operating system
Windows Mobile 2005

03-0330-0499/A-11/11-BAT-D285068/1

Power supply
Li-ion battery 17-A1Z0-0001
with 7.4 V/2200 mAh
Battery can be changed in the Ex area!

Backup battery
Ni-MH battery (rechargeable)
3.6 V/15 mAh

Interfaces
- RS232
- USB

Application development
SDK available from the Symbol Developer Central Website

Audio System
Integrated microphone and loudspeaker

Wireless data communication (WLAN)

Radio standard
IEEE 802.11a/b/g

Data rate/frequency range
IEEE802.11a: up to 54 Mbit/s - 5 GHz
IEEE802.11b: up to 11 Mbit/s - 2.4 GHz
IEEE802.11g: up to 54 Mbit/s - 2.4 GHz

Output power
100 mW (Germany and international)

Antenna
Integrated in the device

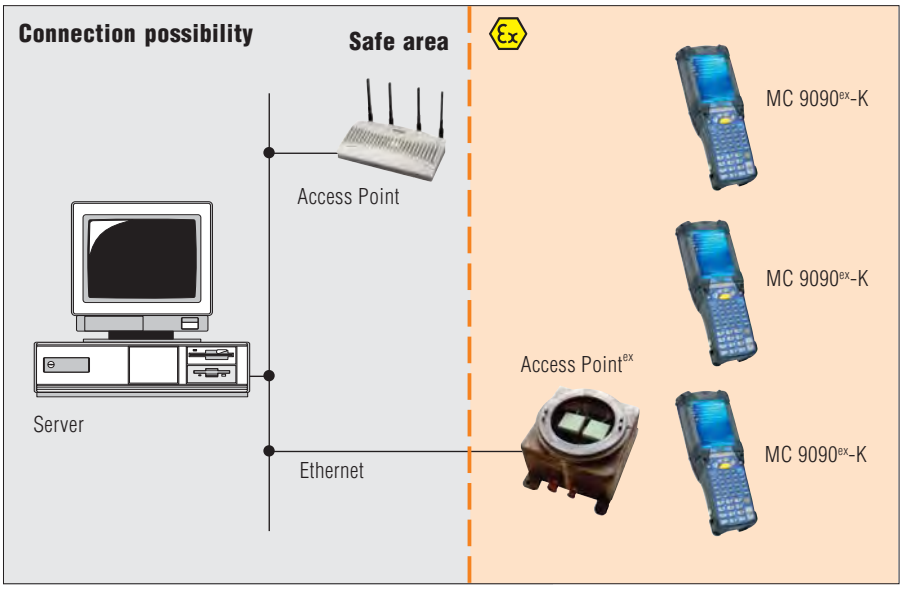
Note
The respective radio frequencies and usable channels depend on the country-specific regulations.

Bluetooth (WPAN)

Bluetooth version 1.2 with BT Explorer (including manager)

Maximum data rate
1 Mbit/s

Antenna
Integrated in the device



The MC 9090ex-K Mobile Computers with the 1D-/2D- Image Engine recognise the following barcodes:

1D-Codes:

Code 11	Interleaved 2 of 5
Code 39	MSI
Code 93	UPCA
Code 128	UPCE
Codabar	UPC/EAN supplementals
Coupon Code	Trioptic 39
Chinese 2 of 5	RSS-14
Discrete 2 of 5	RSS Expanded
EAN-8	RSS Limited
EAN-13	Webcode

2D-Codes:

Aztec	(Macro) Micro PDF-417
Australian 4-state	Micro PDF-417 PDF-417
Canadian 4-state	microQR
Composite AB	Maxi Code
Composite C	QR Code
Chinese 2 of 5	TLC39
Data Matrix	UK 4-state
Dutch Kix	US Planet
Japanese 4-state	US Postnet
Macro PDF-417	USPS 4-state (US4CB)

Selection chart

Version	Code no.
28 keys, numeric	A
33 keys, numeric	L
43 keys, alphanumeric	F
53 keys, alphanumeric	E
53 keys with layout for VT emulation	G
53 keys with layout for 3270 emulation	H
53 keys with layout for 5250 emulation	J

Complete order no. 17-A119-0KK0/HC ☐ FA6
MC 9090ex-K with 1D-/2D-Imager Engine
including Li-ion battery (1 piece)

Please insert correct code. Technical data subject to change without notice.
Note: All variants without accessories.
You will find the accessories with order details on the accessories pages.

03-0330-0499/A-11/11-BAT-D285068/2

illustration:
external module

MC 9090ex-K and -G with external RFID Reader UHF

Features

- International approvals for global usability
- RFID/UHF with wide reading range
- WLAN radio standard IEEE 802.11 a/b/g
- Battery can be changed easily by the user
- Expanded storage capacity with replaceable SD card
- Choice of various replaceable keyboard variants
- Service contracts

Description

The MC 9090ex Mobile Computer is a robust device for reliably scanning barcodes and reading RFID tags in hazardous areas.

The scan trigger is positioned in such a way that barcodes and RFID tags can be captured very conveniently. The integrated radio module enables real time data access to your host system.

The MC 9090ex combines the strength of Microsoft's Pocket PC platform with the power of the Intel® XScale™ PXA270 processor with 624 MHz.

A further highlight is the large easy-to-read 1/4 VGA color display with touchscreen technology.

The MC 9090ex is working with the IEEE802.11 a/b/g (Direct sequence).

Explosion protection

ATEX **Ex protection type**
Ⓔx II 2G Ex q [ib] IIC T4
Ⓔx II 2G Ex q [ib] IIB T4
(Imager and all versions with external antenna)

Certification
PTB 05 ATEX 2055
For further details see EC Type Certification.

IECEx **Ex protection type**
Ex q [ib] IIC T4

Certification
IECEx PTB 08.0012
For further details see IECEx Certificate of Conformity.

Other variants are available for:
-USA, Canada

Technical data

Keyboard version
available with 28, 33, 43 and 53 keys

Display
3.8", 1/4 VGA colour display with touchscreen
240 x 320 pixels

UHF Reader
Nominal read/write range

UHF internal module:
up to approx. 30 - 50 cm
(approx. 11.8 - 19.6 inch)

UHF external module and external antenna:
up to approx. 1.5 m (approx. 59 inch)
with EPC Gen 2 Tag with Dog Bone Tag Antenna (UPM Raflatac)

Antenna integrated in the module or external on the module

Frequency range
865.6 up to 867.5 MHz
(Europe)

Barcode options
MC 9090ex-K
SE 950: 1D-Standard Range Scan Engine
Reading range: approx. 10 cm up to 120 cm

SE 4400:1D-/2D-Imager Engine
Reading range: approx. 6 cm up to 50 cm

MC 9090ex-G
SE 1524:1D-Long Range Scan Engine
Reading range: approx. 10 cm up to 12 m

Dimensions (length x width x height)
MC 9090ex-K
231 mm x 115 mm x 105 mm
(9,1 inch x 4,5 inch x 4,1 inch)

MC 9090ex-G
231 mm x 115 mm x 193 mm
(9,1 inch x 4,5 inch x 7,6 inch)

Weight
MC 9090ex-K
approx. 1320 g (approx. 46 oz)

MC 9090ex-G
approx. 1400 g (approx. 49 oz)

Ambient temperature
-20 °C up to +40 °C (-4 °F up to +104 °F)

Surface temperature
-40 °C up to +70 °C (-40 °F up to +158 °F)

Charging temperature
0 °C up to +40 °C (+32 °F up to +104 °F)

Humidity
5 % to 95 % (non-condensing)

Protection class EN 60529)
IP 54

CPU
Intel® XScale™ PXA270 prozessor/624 MHz

Memory
128/128 MB RAM/ROM option of expansion
with SD card: 512 MB, 1 GB or 2 GB

Operating system
Windows Mobile 2005

Power supply
Li-ion battery 17-A1Z0-0001
with 7.4 V/ 2200 mAh
Battery can be changed in the Ex area!

Backup Battery
Ni-MH battery (rechargeable)
3.6 V/15 mAh

Interfaces
- RS232
- USB

Application development
SDK available through Motorola Developer Central Web site

Audio system
integrated microphone and loudspeaker

Wireless data communication (WLAN)

Radio standard
IEEE 802.11a/b/g

Data rate/Frequency range
IEEE802.11a: up to 54 Mbit/s - 5 GHz
IEEE802.11b: up to 11 Mbit/s - 2.4 GHz
IEEE802.11g: up to 54 Mbit/s - 2.4 GHz

Output power
100 mW (international)

Antenna
integrated in the device

Note
The use of channels and frequencies is subject to country-specific regulations.

Bluetooth (WPAN)
Bluetooth Version 1.2 with BT Explorer (manager included)

Maximum data rate
1 Mbit/s

Antenna
integrated in the device

Mobile Computer MC 9090ex-K/MC 9090ex-G

1D-Codes:

Code 11	Interleaved 2 of 5
Code 39	MSI
Code 93	UPCA
Code 128	UPCE
Codabar	UPC/EAN supplementals
Coupon Code	Trioptic 39
Chinese 2 of 5	RSS-14
Discrete 2 of 5	RSS Expanded
EAN-8	RSS Limited
EAN-13	Webcode

Mobile Computer MC 9090ex-K

2D-Codes:

Aztec	(Macro) Micro PDF-417
Australian 4-state	Micro PDF-417 PDF-417
Canadian 4-state	microQR
Composite AB	Maxi Code
Composite C	QR Code
Chinese 2 of 5	TLC39
Data Matrix	UK 4-state
Dutch Kix	US Planet
Japanese 4-state	US Postnet
Macro PDF-417	USPS 4-state (US4CB)

Selection chart

Mobile Computer	Code no.	Barcode	Code no.	UHF antenna	Code no.	Version	Code no.
MC 9090ex-G Gun	**G**	SE 1524 1D-Long Range Scan Engine	**J**	external module	**4**	28 keys, numeric	**A**
						33 keys, numeric	**L**
						43 keys, alphanumeric	**F**
MC 9090ex-K Brick	**K**	SE 950 1D-Standard Range Scan Engine	**A**	external module and external antenna	**7**	53 keys, alphanumeric	**E**
						53 keys with layout for VT emulation	**G**
		SE 4400 1D-/2D-Imager Engine	**K**			53 keys with layout for 3270 emulation	**H**
						53 keys with layout for 5250 emulation	**J**

Complete order no. 17-A119-R ☐☐☐ HC ☐ FA600
MC 9090ex-K or -G with external RFID Reader UHF
including Li-ion battery (1 pc.)

Please insert correct code. Technical data subject to change without notice.
Note: All variants without accessories. You will find the accessories with order details on the accessories pages.

03-0330-0556/A-11/11-BAT-292458/2

MC 9090ex-K and -G with external RFID Reader HF

Features

- International approvals for global usability
- WLAN radio standard IEEE 802.11 a/b/g
- Battery can be changed easily by the user
- Expanded storage capacity with replaceable SD card
- Choice of various replaceable keyboard variants
- Service contracts

Description

The MC 9090ex Mobile Computer is a robust device for reliably scanning barcodes and reading RFID tags in hazardous areas.

The scan trigger is positioned in such a way that barcodes and RFID tags can be captured very conveniently. The integrated radio module enables real time data access to your host system.

The MC 9090ex combines the strength of Microsoft's Pocket PC platform with the power of the Intel® XScale™ PXA270 processor with 624 MHz.

A further highlight is the large easy-to-read 1/4 VGA color display with touchscreen technology.

The MC 9090ex is working with the IEEE802.11 a/b/g (Direct sequence).

Explosion protection

ATEX **Ex protection type**
Ⓔx II 2G Ex q [ib] IIC T4
Ⓔx II 2G Ex q [ib] IIB T4 (Imager)

Certification
PTB 05 ATEX 2055

For further details see EC Type Certification.

IECEx **Ex protection type**
Ex q [ib] IIC T4

Certification
IECEx PTB 08.0012

For further details see IECEx Certificate of Conformity.

Other variants are available for:

-USA, Canada

Technical data

Keyboard version
available with 28, 33, 43 and 53 keys

Display
3.8", 1/4 VGA colour display with touchscreen
240 x 320 pixels

HF Reader
Nominal read/write range

HF ISO 15693:
up to approx. 7 - 12 cm
(approx. 2.75 - 4.72 inch)
(by tags in cheque card format)

HF ISO 14443:
up to approx. 1 - 6 cm
(approx. 0.4 - 2.36 inch)
(by tags in cheque card format)

Antenna
integrated in the modul

Frequency range
13.56 MHz

Barcode options

MC 9090ex-K
SE 950: 1D-Standard Range Scan Engine
Reading range: approx. 10 cm up to 120 cm

SE 4400:1D-/2D-Imager Engine
Reading range: approx. 6 cm up to 50 cm

MC 9090ex-G
SE 1524:1D-Long Range Scan Engine
Reading range: approx. 10 cm up to 12 m

Dimensions (length x width x height)
MC 9090ex-K
231 mm x 115 mm x 105 mm
(9.1 inch x 4.5 inch x 4.1 inch)

MC 9090ex-G
231 mm x 115 mm x 193 mm
(9.1 inch x 4.5 inch x 7.6 inch)

Weight
MC 9090ex-K
approx. 1320 g (approx. 46 oz)

MC 9090ex-G
approx. 1400 g (approx. 49 oz)

Ambient temperature
-20 °C up to +40 °C (-4 °F up to +104 °F)

Surface temperature
-40 °C up to +70 °C (-40 °F up to +158 °F)

Charging temperature
0 °C up to +40 °C (+32 °F up to +104 °F)

Humidity
5 % to 95 % (non-condensing)

Protection class (EN 60529)
IP 54

CPU
Intel® XScale™ PXA270 prozessor/624 MHz

Memory
128/128 MB RAM/ROM option of expansion with SD card: 512 MB, 1 GB or 2 GB

Operating system
Windows Mobile 2005

Power supply
Li-ion battery 17-A1Z0-0001
with 7.4 V/ 2200 mAh
Battery can be changed in the Ex area!

Backup Battery
Ni-MH battery (rechargeable)
3.6 V/15 mAh

Interfaces
- RS232
- USB

Application development
SDK available through Motorola Developer Central Web site

Audio system
integrated microphone and loudspeaker

Wireless data communication (WLAN)

Radio standard
IEEE 802.11a/b/g

Data rate/Frequency range
IEEE802.11a: up to 54 Mbit/s - 5 GHz
IEEE802.11b: up to 11 Mbit/s - 2.4 GHz
IEEE802.11g: up to 54 Mbit/s - 2.4 GHz

Output power
100 mW (international)

Antenna
integrated in the device

Note
The use of channels and frequencies is subject to country-specific regulations.

Bluetooth (WPAN)

Bluetooth Version 1.2 with BT Explorer (manager included)

Maximum data rate
1 Mbit/s

Antenna
integrated in the device

Standards

ISO 14443-A compatibel (e.g. mifare, mifare Ultra Light, my-d proximity)
ISO 14443-B compatibel
ISO 15693 compatibel (e.g. I. CodeSLI, Tag-It HF, my-d vicintiy, STM LRI 512)
I. Code 1 (optional, via Firmware update)

Mobile Computer MC 9090ex-K/MC 9090ex-G

1D-Codes:

Code 11	Interleaved 2 of 5
Code 39	MSI
Code 93	UPCA
Code 128	UPCE
Codabar	UPC/EAN supplementals
Coupon Code	Trioptic 39
Chinese 2 of 5	RSS-14
Discrete 2 of 5	RSS Expanded
EAN-8	RSS Limited
EAN-13	Webcode

Mobile Computer MC 9090ex-K

2D-Codes:

Aztec	(Macro) Micro PDF-417
Australian 4-state	Micro PDF-417 PDF-417
Canadian 4-state	microQR
Composite AB	Maxi Code
Composite C	QR Code
Chinese 2 of 5	TLC39
Data Matrix	UK 4-state
Dutch Kix	US Planet
Japanese 4-state	US Postnet
Macro PDF-417	USPS 4-state (US4CB)

Selection chart

Mobile Computer		Barcode	Code no.	Version	Code no.
MC 9090ex-G Gun	**G**	SE 1524 1D-Long Range Scan Engine	**J**	28 keys, numeric	**A**
				33 keys, numeric	**L**
				43 keys, alphanumeric	**F**
MC 9090ex-K Brick	**K**	SE 950 1D-Standard Range Scan Engine	**A**	53 keys, alphanumeric	**E**
				53 keys with layout for VT emulation	**G**
		SE 4400 1D-/2D- Imager Engine	**K**	53 keys with layout for 3270 emulation	**H**
				53 keys with layout for 5250 emulation	**J**

Complete order no. 17-A119-R ☐☐2/HC ☐ FA600
MC 9090ex-K or -G with external RFID Reader HF
including Li-ion battery (1 pc.)

Please insert correct code. Technical data subject to change.
Note: All variants without accessories.
You will find the accessories with order details on the accessories pages.

03-0330-0555/A-11/11-BAT-292457/2

MC 9090ex-K and -G with external RFID Reader LF

Features

- International approvals for global usability
- WLAN radio standard IEEE 802.11 a/b/g
- Battery can be changed easily by the user
- Expanded storage capacity with replaceable SD card
- Choice of various replaceable keyboard variants
- Service contracts

Description

The MC 9090ex Mobile Computer is a robust device for reliably scanning barcodes and reading RFID tags in hazardous areas.

The scan trigger is positioned in such a way that barcodes and RFID tags can be captured very conveniently. The integrated radio module enables real time data access to your host system.

The MC 9090ex combines the strength of Microsoft's Pocket PC platform with the power of the Intel® XScale™ PXA270 processor with 624 MHz.

A further highlight is the large easy-to-read 1/4 VGA color display with touchscreen technology.

The MC 9090ex is working with the IEEE802.11 a/b/g (Direct sequence).

Explosion protection

ATEX **Ex protection type**
Ⓔx II 2G Ex q [ib] IIC T4
Ⓔx II 2G Ex q [ib] IIB T4 (Imager)

Certification
PTB 05 ATEX 2055

For further details see EC Type Certification.

IECEx **Ex protection type**
Ex q [ib] IIC T4

Certification
IECEx PTB 08.0012

For further details see IECEx Certificate of Conformity.

Other variants are available for:
- USA, Canada

Technical data

Keyboard version
available with 28, 33, 43 and 53 keys

Display
3.8", 1/4 VGA colour display with touchscreen
240 x 320 pixels

LF Reader
Nominal read/write range
up to approx. 5 cm (1.9 inch)

Antenna
integrated in the modul

Frequency range
125/134 KHz
(automatic switched by the reader)

Barcode options
MC 9090ex-K
SE 950: 1D-Standard Range Scan Engine
Reading range: approx. 10 cm up to 120 cm

SE 4400:1D-/2D-Imager Engine
Reading range: approx. 6 cm up to 50 cm

MC 9090ex-G
SE 1524:1D-Long Range Scan Engine
Reading range: approx. 10 cm up to 12 m

Dimensions (length x width x height)
MC 9090ex-K
231 mm x 115 mm x 105 mm
(9.1 inch x 4.5 inch x 4.1 inch)

MC 9090ex-G
231 mm x 115 mm x 193 mm
(9.1 inch x 4.5 inch x 7.6 inch)

Weight
MC 9090ex-K
approx. 1320 g (approx. 46 oz)

MC 9090ex-G
approx. 1400 g (approx. 49 oz)

Ambient temperature
-20 °C up to +40 °C (-4 °F up to +104 °F)

Surface temperature
-40 °C up to +70 °C (-40 °F up to +158 °F)

Charging temperature
0 °C up to +40 °C (+32 °F up to +104 °F)

Humidity
5 % to 95 % (non-condensing)

Protection class (EN 60529)
IP 54

CPU
Intel® XScale™ PXA270 prozessor/624 MHz

Memory
128/128 MB RAM/ROM option of expansion with SD card: 512 MB, 1 GB or 2 GB

Operating system
Windows Mobile 2005

Power supply
Li-ion battery 17-A1Z0-0001
with 7.4 V/ 2200 mAh
Battery can be changed in the Ex area!

Backup Battery
Ni-MH battery (rechargeable)
3.6 V/15 mA

Interfaces
- RS232
- USB

Application development
SDK available through Motorola Developer Central Web site

Audio system
integrated microphone and loudspeaker

03-0330-0554/A-11/11-BAT-292456/1

Wireless data communication (WLAN)

Radio standard
IEEE 802.11a/b/g

Data rate/Frequency range
IEEE802.11a: up to 54 Mbit/s - 5 GHz
IEEE802.11b: up to 11 Mbit/s - 2.4 GHz
IEEE802.11g: up to 54 Mbit/s - 2.4 GHz

Output power
100 mW (international)

Antenna
integrated in the device

Note
The use of channels and frequencies is subject to country-specific regulations.

Bluetooth (WPAN)

Bluetooth Version 1.2 with BT Explorer (manager included)

Maximum data rate
1 Mbit/s

Antenna
integrated in the device

Standards supported through Firmware

Btrw-rw.V.1.40.frm	Btrw-hdx.V.1.40.frm	Btrw-ti.V.1.40.frm
HITAG S256	HDX -RO	EM 4450/4550
HITAG S 2 kbit	HDX (Multipage)	EM4xxx (UNIQUE)
HITAG 1	EM4xxx (UNIQUE)	FDX-B
HITAG 2	FDX-B	BDE
Q5	BDE	ISO 11784/5
ATA5567	ISO 117845	ISO Animal
EM4305	ISO Animal	

Mobile Computer MC 9090ex-K/MC 9090ex-G

1D-Codes:

Code 11	Interleaved 2 of 5
Code 39	MSI
Code 93	UPCA
Code 128	UPCE
Codabar	UPC/EAN supplementals
Coupon Code	Trioptic 39
Chinese 2 of 5	RSS-14
Discrete 2 of 5	RSS Expanded
EAN-8	RSS Limited
EAN-13	Webcode

Mobile Computer MC 9090ex-K

2D-Codes:

Aztec	(Macro) Micro PDF-417
Australian 4-state	Micro PDF-417 PDF-417
Canadian 4-state	microQR
Composite AB	Maxi Code
Composite C	QR Code
Chinese 2 of 5	TLC39
Data Matrix	UK 4-state
Dutch Kix	US Planet
Japanese 4-state	US Postnet
Macro PDF-417	USPS 4-state (US4CB)

Selection chart

Mobile Computer	Code no.	Barcode	Code no.	Version	Code no.
MC 9090ex-G Gun	**G**	SE 1524 1D-Long Range Scan Engine	**J**	28 keys, numeric	**A**
				33 keys, numeric	**L**
		SE 950 1D-Standard Range Scan Engine	**A**	43 keys, alphanumeric	**F**
MC 9090ex-K Brick	**K**			53 keys, alphanumeric	**E**
				53 keys with layout for VT emulation	**G**
		SE 4400 1D-/2D-Imager Engine	**K**	53 keys with layout for 3270 emulation	**H**
				53 keys with layout for 5250 emulation	**J**

Complete order no. 17-A119-R ☐☐ 1/HC ☐ FA600
MC 9090ex-K or -G with external RFID Reader LF
including Li-ion battery (1 pc.)

Please insert correct code. Technical data subject to change without notice.
Note: All variants without accessories.
You will find the accessories with order details on the accessories pages.

03-0330-0554/A-11/11-BAT-292456/2

MC 9090ex-G and -K with external RFID Reader UHF

Features

- International approvals for global usability
- WLAN radio standard IEEE 802.11 a/b/g
- Battery can be changed easily by the user
- Expanded storage capacity with replaceable SD card
- Choice of various replaceable keyboard variants
- Service contracts

Description

The MC 9090ex Mobile Computer is a robust device for reliably scanning barcodes and reading RFID tags in hazardous areas.

The scan trigger is positioned in such a way that barcodes and RFID tags can be captured very conveniently. The integrated radio module enables real time data access to your host system.

The MC 9090ex combines the strength of Microsoft's Pocket PC platform with the power of the Intel® XScale™ PXA270 processor with 624 MHz.

A further highlight is the large easy-to-read 1/4 VGA color display with touchscreen technology.

The MC 9090ex is working with the IEEE802.11 a/b/g (Direct sequence).

Explosion protection

Ex protextion type Zone 2

Type B7-A219-R..4/.....
Ⓔx II 3G Ex nA [nL] IIC T4
-20 °C ≤ T_a ≤ +50 °C

Type B7-A219-R..7/.....
Ⓔx II 3G Ex nA [nL] IIB T4
-20 °C ≤ T_a ≤ +50 °C

Ex protextion type Zone 22

Ⓔx II 3D Ex tD A22 IP 54 T90 °C
-20 °C ≤ T_a ≤ +50 °C

Certification

EC Declaration of Conformity
No.: B1-A219-7C0005 X

Other variants are available for:

- Europe
  ATEX Zone 1 and ATEX Zone 2/22
- North America
  UL Class I, II, III Div 1 or 2

Technical data

Keyboard version
available with 28, 33, 43 and 53 keys

Display
3.8", 1/4 VGA colour display with touchscreen
240 x 320 pixels

UHF Reader
Nominal read/write range

UHF external module:
up to approx. 30 - 50 cm
(approx. 11.8 - 19.6 inch)

UHF external module and external antenna:
up to approx. 1.5 m (approx. 59 inch)
with EPC Gen 2 Tag with Dog Bone Tag Antenna (UPM Raflatac)

Antenna integrated in the modul or external on the module

Frequency range
865.6 up to 867.5 MHz (Europe)

Barcode options

MC 9090ex-K
SE 950: 1D Standard Range Scan Engine
Reading range: approx. 10 cm up to 120 cm

SE 4400: 1D/2D Imager Engine
Reading range: approx. 6 cm up to 50 cm

MC 9090ex-G
SE 1524: 1D Long Range Scan Engine
Reading range: approx. 10 cm up to 12 m

Dimensions (length x width x height)
MC 9090ex-K
231 mm x 115 mm x 105 mm
(9.1 inch x 4.5 inch x 4.1 inch)

MC 9090ex-G
231 mm x 115 mm x 193 mm
(9.1 inch x 4.5 inch x 7.6 inch)

Weight
MC 9090ex-K
approx. 1020 g (approx. 36 oz)

MC 9090ex-G
approx. 1140 g (approx. 40 oz)

Ambient temperature
-20 °C up to +50 °C (-4 °F up to +122 °F)

Storage temperature
-40 °C up to +70 °C (-40 °F up to +158 °F)

Charging temperature
0 °C up to +40 °C (+32 °F up to +104 °F)

Humidity
5 % to 95 % (non-condensing)

Protection class (EN 60529)
IP 54

CPU
Intel® XScale™ PXA270 prozessor/624 MHz

03-0330-0559/A-11/11-BAT-292461/1

Memory
128/128 MB RAM/ROM
option of expansion with SD card:
1 GB or 2 GB

Operating system
Windows Mobile 2005

Power supply
Li-ion battery B7-A2Z0-0006
with 7.4 V/2200 mAh

Battery can only be charged and changed in the safe area!

Backup Battery
Ni-MH battery (rechargeable)
3.6 V/15 mAh

Interfaces
- RS232
- USB

Application development
SDK available through Motorola Developer Central Web site

Audio system
integrated microphone and loudspeaker

Wireless data communication (WLAN)

Radio standard
IEEE 802.11a/b/g

Data rate/Frequency range
IEEE802.11a: up to 54 Mbit/s - 5 GHz
IEEE802.11b: up to 11 Mbit/s - 2.4 GHz
IEEE802.11g: up to 54 Mbit/s - 2.4 GHz

Output power
100 mW (international)

Antenna
integrated in the device

Note
The use of channels and frequencies is subject to country-specific regulations.

Bluetooth (WPAN)

Bluetooth Version 1.2 with BT Explorer (manager included)

Maximum data rate
1 Mbit/s

Antenna
integrated in the device

Mobile Computer MC 9090ex-K/MC 9090ex-G

1D-Codes:

Code 11	Interleaved 2 of 5
Code 39	MSI
Code 93	UPCA
Code 128	UPCE
Codabar	UPC/EAN supplementals
Coupon Code	Trioptic 39
Chinese 2 of 5	RSS-14
Discrete 2 of 5	RSS Expanded
EAN-8	RSS Limited
EAN-13	Webcode

Mobile Computer MC 9090ex-K

2D-Codes:

Aztec	(Macro) Micro PDF-417
Australian 4-state	Micro PDF-417 PDF-417
Canadian 4-state	microQR
Composite AB	Maxi Code
Composite C	QR Code
Chinese 2 of 5	TLC39
Data Matrix	UK 4-state
Dutch Kix	US Planet
Japanese 4-state	US Postnet
Macro PDF-417	USPS 4-state (US4CB)

Selection chart

Mobile Computer	Code no.	Barcode	Code no.	UHF antenna	Code no.	Version	Code no.
MC 9090ex-G Gun	**G**	SE 1524 1D Long Range Scan Engine	**J**	external module	**4**	28 keys, numeric	**A**
						33 keys, numeric	**L**
		SE 4400 1D/2D Imager Engine	**K**			43 keys, alphanumeric	**F**
						53 keys, alphanumeric	**E**
MC 9090ex-K Brick	**K**	SE 950 1D Standard Range Scan Engine	**U**	external module and external antenna	**7**	53 keys with layout for VT emulation	**G**
						53 keys with layout for 3270 emulation	**H**
		SE 4400 1D/2D Imager Engine	**K**			53 keys with layout for 5250 emulation	**J**

Complete order no. B7-A219-R ☐☐☐ /HC ☐ FA600
MC 9090ex-K or -G with external RFID Reader UHF
including Li-ion battery (1 pc.)

Please insert correct code. Technical data subject to change.
Note: All variants without accessories.
You will find the accessories with order details on the accessories pages.

03-0330-0559/A-11/11-BAT-292461/2

MC 9090ex-K and -G with external RFID Reader HF

Features

- International approvals for global usability
- WLAN radio standard IEEE 802.11 a/b/g
- Battery can be changed easily by the user
- Expanded storage capacity with replaceable SD card
- Choice of various replaceable keyboard variants
- Service contracts

Description

The MC 9090ex Mobile Computer is a robust device for reliably scanning barcodes and reading RFID tags in hazardous areas.

The scan trigger is positioned in such a way that barcodes and RFID tags can be captured very conveniently. The integrated radio module enables real time data access to your host system.

The MC 9090ex combines the strength of Microsoft's Pocket PC platform with the power of the Intel® XScale™ PXA270 processor with 624 MHz.

A further highlight is the large easy-to-read 1/4 VGA color display with touchscreen technology.

The MC 9090ex is working with the IEEE802.11 a/b/g (Direct sequence).

Explosion protection

Ex protextion type Zone 2
Ⓔx II 3G Ex nA [nL] IIC T4
-20 °C ≤ Ta ≤ +50 °C

Ex protextion type Zone 22
Ⓔx II 3G Ex tD A22 IP 54 T90 °C
-20 °C ≤ Ta ≤ +50 °C

Certification
EC Declaration of Conformity
No.: B1-A219-7C0005 X

Other variants are available for:
- Europe
  ATEX Zone 1 and ATEX Zone 2/22
- North America
  UL Class I, II, III Div 1 or 2

Technical data

Keyboard version
available with 28, 33, 43 and 53 keys

Display
3.8", 1/4 VGA colour display with touchscreen 240 x 320 pixels

HF Reader
Nominal read/write range

HF ISO 15693:
up to approx. 7 - 12 cm
(approx. 2.75 - 4.72 inch)
(by tags in cheque card format)

HF ISO 14443:
up to approx. 1 - 6 cm
(approx. 0.4 - 2.36 inch)
(by tags in cheque card format)

Antenna
integrated in the modul

Frequency range
13.5 MHz

Barcode options

MC 9090ex-K
SE 950: 1D-Standard Range Scan Engine
Reading range: approx. 10 cm up to 120 cm

SE 4400: 1D-/2D-Imager Engine
Reading range: approx. 6 cm up to 50 cm

MC 9090ex-G
SE 1524: 1D-Long Range Scan Engine
Reading range: approx. 10 cm up to 12 m

Dimensions (length x width x height)
MC 9090ex-K
231 mm x 115 mm x 105 mm
(9.1 inch x 4.5 inch x 4.1 inch)

MC 9090ex-G
231 mm x 115 mm x 193 mm
(9.1 inch x 4.5 inch x 7.6 inch)

Weight
MC 9090ex-K
approx. 1020 g (approx. 36 oz)

MC 9090ex-G
approx. 1140 g (approx. 40 oz)

Ambient temperature
-20 °C up to +50 °C (-4 °F up to +122 °F)

Surface temperature
-40 °C up to +70 °C (-40 °F up to +158 °F)

Charging temperature
0 °C up to +40 °C (+32 °F up to +104 °F)

Humidity
5 % to 95 % (non-condensing)

Protection class (EN 60529)
IP 54

CPU
Intel® XScale™ PXA270 prozessor/624 MHz

03-0330-0557/A-09/11-BAT-292459/1

Memory
128/128 MB RAM/ROM
option of expansion with SD card:
512 MB, 1 GB or 2 GB

Operating system
Windows Mobile 2005

Power supply
Li-ion battery B7-A2Z0-0006
with 7.4 V/2200 mAh
Battery can only be charged and changed in the safe area!

Backup Battery
Ni-MH battery (rechargeable)
3.6 V/15 mAh

Interfaces
- RS232
- USB

Application development
SDK available through Motorola Developer Central Web site

Audio system
integrated microphone and loudspeaker

Wireless data communication (WLAN)

Radio standard
IEEE 802.11a/b/g

Data rate/Frequency range
IEEE802.11a: up to 54 Mbit/s - 5 GHz
IEEE802.11b: up to 11 Mbit/s - 2.4 GHz
IEEE802.11g: up to 54 Mbit/s - 2.4 GHz

Output power
100 mW (international)

Antenna
integrated in the device

Note
The use of channels and frequencies is subject to country-specific regulations.

Bluetooth (WPAN)

Bluetooth Version 1.2 with BT Explorer (manager included)

Maximum data rate
1 Mbit/s

Antenna
integrated in the device

Supported Standards

ISO 14443-A compatibel (e.g. mifare, mifare Ultra Light, my-d proximity)
ISO 14443-B compatibel
ISO 15693 compatibel (e.g. I. CodeSLI, Tag-It HF, my-d vicintiy, STM LRI 512)
I. Code 1 (optional, via Firmware update)

Mobile Computer MC 9090ex-K/MC 9090ex-G

1D-Codes:

Code 11	Interleaved 2 of 5
Code 39	MSI
Code 93	UPCA
Code 128	UPCE
Codabar	UPC/EAN supplementals
Coupon Code	Trioptic 39
Chinese 2 of 5	RSS-14
Discrete 2 of 5	RSS Expanded
EAN-8	RSS Limited
EAN-13	Webcode

Mobile Computer MC 9090ex-K

2D-Codes:

Aztec	(Macro) Micro PDF-417
Australian 4-state	Micro PDF-417 PDF-417
Canadian 4-state	microQR
Composite AB	Maxi Code
Composite C	QR Code
Chinese 2 of 5	TLC39
Data Matrix	UK 4-state
Dutch Kix	US Planet
Japanese 4-state	US Postnet
Macro PDF-417	USPS 4-state (US4CB)

Selection chart

Mobile Computer		Barcodeerfassung	Code no.	Version	Code no.
MC 9090ex-G Gun	**G**	SE 1524 1D-Long Range Scan Engine	**J**	28 keys, numeric	**A**
				33 keys, numeric	**L**
		SE 4400 1D-/2D- Imager Engine	**K**	43 keys, alphanumeric	**F**
MC 9090ex-K Brick	**K**	SE 950 1D-Standard Range Scan Engine	**U**	53 keys, alphanumeric	**E**
				53 keys with layout for VT emulation	**G**
		SE 4400 1D-/2D- Imager Engine	**K**	53 keys with layout for 3270 emulation	**H**
				53 keys with layout for 5250 emulation	**J**

Complete order no. B7-A219-R ☐☐ 2/HC ☐ FA600
MC 9090ex-K or -G with external RFID Reader HF
including Li-ion battery (1 pc.).

Please insert correct code. Technical data subject to change. Note: All variants without accessories.
You will find the accessories with order details on the accessories pages.

03-0330-0557/A-09/11-BAT-292459/2

MC 9090ex-G and -K with external RFID Reader LF

Features

- International approvals for global usability
- WLAN radio standard IEEE 802.11 a/b/g
- Battery can be changed easily by the user
- Expanded storage capacity with replaceable SD card
- Choice of various replaceable keyboard variants
- Service contracts

Description

The MC 9090ex Mobile Computer is a robust device for reliably scanning barcodes and reading RFID tags in hazardous areas.

The scan trigger is positioned in such a way that barcodes and RFID tags can be captured very conveniently. The integrated radio module enables real time data access to your host system.

The MC 9090ex combines the strength of Microsoft's Pocket PC platform with the power of the Intel® XScale™ PXA270 processor with 624 MHz.

A further highlight is the large easy-to-read 1/4 VGA color display with touchscreen technology.

The MC 9090ex is working with the IEEE802.11 a/b/g (Direct sequence).

Explosion protection

Ex protection type Zone 2
Ⓔx II 3G Ex nA [nL] IIC T4
-20 °C ≤ T_a ≤ +50 °C

Ex protection type Zone 22
Ⓔx II 3G Ex tD A22 IP 54 T90 °C
-20 °C ≤ T_a ≤ +50 °C

Certification
EC Declaration of Conformity
No.: B1-A219-7C0005 X

Other variants are available for:
- Europe
  ATEX Zone 1 and ATEX Zone 2/22
- North America
  UL Class I, II, III Div 1 or 2

Technical data

Keyboard version
available with 28, 33, 43 and 53 keys

Display
3.8", 1/4 VGA colour display with touchscreen
240 x 320 pixels

LF Reader
Nominal read/write range
approx. 5 cm (1.9 inch)

Antenna
integrated in the modul

Frequency range
125/134 KHz
(automatic switched by the reader)

Barcode options

MC 9090ex-G
SE 1524: 1D-Long Range Scan Engine
Reading range: approx. 10 cm up to 12 m

MC 9090ex-K
SE 950: 1D-Standard Range Scan Engine
Reading range: approx. 10 cm up to 120 cm

SE 4400: 1D-/2D-Imager Engine
Reading range: approx. 6 cm up to 50 cm

Dimensions (length x width x height)
MC 9090ex-G
231 mm x 115 mm x 193 mm
(9.1 inch x 4.5 inch x 7.6 inch)

MC 9090ex-K
231 mm x 115 mm x 105 mm
(9.1 inch x 4.5 inch x 4.1 inch)

Weight
MC 9090ex-G
approx. 1140 g (approx. 40 oz)

MC 9090ex-K
approx. 1020 g (approx. 36 oz)

Ambient temperature
-20 °C up to +50 °C (-4 °F up to +122 °F)

Surface temperature
-40 °C up to +70 °C (-40 °F up to +158 °F)

Charging temperature
0 °C up to +40 °C (+32 °F up to +104 °F)

Humidity
5 % to 95 % (non-condensing)

Protection class (EN 60529)
IP 54

CPU
Intel® XScale™ PXA270 prozessor/624 MHz

Memory
128/128 MB RAM/ROM
option of expansion with SD card:
512 MB, 1 GB or 2 GB

Operating system
Windows Mobile 2005

Power supply
Li-ion battery B7-A2Z0-0006
with 7.4 V/ 2200 mAh
Battery can only be charged and changed in the safe area!

Backup Battery
Ni-MH battery (rechargeable)
3.6 V/15 mAh

Interfaces
- RS232
- USB

Application development
SDK available through Motorola Developer Central Web site

Audio system
integrated microphone and loudspeaker

Wireless data communication (WLAN)

Radio standard
IEEE 802.11a/b/g

Data rate/Frequency range
IEEE802.11a: up to 54 Mbit/s - 5 GHz
IEEE802.11b: up to 11 Mbit/s - 2.4 GHz
IEEE802.11g: up to 54 Mbit/s - 2.4 GHz

Output power
100 mW (international)

Antenna
integrated in the device

Note
The use of channels and frequencies is subject to country-specific regulations.

Bluetooth (WPAN)
Bluetooth Version 1.2 with BT Explorer (manager included)

Maximum data rate
1 Mbit/s

Antenna
integrated in the device

Standards supported through Firmware		
Btrw-rw.V.1.40.frm	**Btrw-hdx.V.1.40.frm**	**Btrw-ti.V.1.40.frm**
HITAG S256	HDX -RO	EM 4450/4550
HITAG S 2 kbit	HDX (Multipage)	EM4xxx (UNIQUE)
HITAG 1	EM4xxx (UNIQUE)	FDX-B
HITAG 2	FDX-B	BDE
Q5	BDE	ISO 11784/5
ATA5567	ISO 117845	ISO Animal
EM4305	ISO Animal	

Mobile Computer MC 9090ex-G/MC 9090ex-K

1D-Codes:

Code 11	Interleaved 2 of 5
Code 39	MSI
Code 93	UPCA
Code 128	UPCE
Codabar	UPC/EAN supplementals
Coupon Code	Trioptic 39
Chinese 2 of 5	RSS-14
Discrete 2 of 5	RSS Expanded
EAN-8	RSS Limited
EAN-13	Webcode

Mobile Computer MC 9090ex-K

2D-Codes:

Aztec	(Macro) Micro PDF-417
Australian 4-state	Micro PDF-417 PDF-417
Canadian 4-state	microQR
Composite AB	Maxi Code
Composite C	QR Code
Chinese 2 of 5	TLC39
Data Matrix	UK 4-state
Dutch Kix	US Planet
Japanese 4-state	US Postnet
Macro PDF-417	USPS 4-state (US4CB)

Selection chart

Mobile Computer		Barcode	Code no.	Version	Code no.	SD memory card	Code no.
MC 9090ex-G Gun	**G**	SE 1524 1D-Long Range Scan Engine	**J**	28 keys, numeric	**A**	without SD card	**00**
				33 keys, numeric	**L**		
		SE 4400 1D-/2D- Imager Engine	**K**	43 keys, alphanumeric	**F**	SD card with 512 MB	**01**
				53 keys, alphanumeric	**E**		
MC 9090ex-K Brick	**K**	SE 950 1D-Standard Range Scan Engine	**A**	53 keys with layout for VT emulation	**G**	SD card with 1 GB	**02**
		SE 4400 1D-/2D- Imager Engine	**K**	53 keys with layout for 3270 emulation	**H**	SD card with 2 GB	**03**
				53 keys with layout for 5250 emulation	**J**		

Complete order no. B7-A219-R ☐☐ 1/HC ☐ FA6 ☐☐
MC 9090ex-G or -K with external RFID Reader LF
including Li-ion battery (1 pc.)

Please insert correct code. Technical data subject to change.
Note: All variants without accessories.
You will find the accessories with order details on the accessories pages.

03-0330-0558-11/11-BAT-292460/2

MC 9090ex-G and -K with internal RFID reader LF

Features

- International approvals for global usability
- WLAN radio technology IEEE 802.11a/b/g
- Battery can be changed easily by the user
- Expanded storage capacity with replaceable SD card
- Various versions of replaceable keyboards
- Service contracts

Description

The MC 9090ex Mobile Computer is a rubust device for RFID reading in hazardous (potentially explosive) areas.

The RFID scan trigger is positioned in such a way that RFID tags can be captured very conveniently. The integrated radio module enables real time data access to your host system.

The MC 9090ex combines the strength of Microsoft's Pocket PC platform with the power of the Intel® XScale™ PXA270 processor with 624 MHz.

A further highlight is the large easy-to-read 1/4 VGA color display with touchscreen technology. The MC 9090ex is working with the IEEE 802.11a/b/g radio standard (direct sequence).

Market	Applications	Users
Automobile industry (suppliers of paintwork, for paint shops, etc.) **Food and beverages** (suppliers of aromatic substances, etc.) **Petrochemicals** (from production through further processing to delivery) **Pharmaceuticals** (suppliers of individual components required for production e.g. medication)	- Material flow monitoring - Production control - Supplier chain management - Incoming/outgoing goods, inventory management - Safety tests - Spare parts tracking - Maintenance / repair work - Workshop communication - Conformity assessment	**Dispatch, receiving and stock management departments** Personnel who have received instruction on the handling of potentially explosive substances. **Maintenance and repair** Personnel who have received instruction for deployment in potentially explosive areas. **Production area** Personnel in the production area who have received instruction on the handling of potentially explosive substances.

Explosion protection

Ex protection type Zone 2
Ⓔx II 3G Ex nA [nL] IIC T4
-20 °C ≤ T_a ≤ +50 °C

Ex protection type Zone 22
Ⓔx II 3D Ex tD A22 IP 54 T90 °C
-20 °C ≤ T_a ≤ +50 °C

Certification
EC Declaration of Conformity
No.: B1-A219-7C0004 X

Other variants are available for:
-North America
UL Class I, II, III Division 1 or 2

Technical data

Keyboard versions
28, 33, 43 and 53 keys

Display
3.8", 1/4 VGA colour display
with touchscreen 240 x 320 pixels

LF Reader
Nominal read/write range
up to approx. 5 cm (approx. 1.9 inch)

Antenna
Integrated in the device

Frequency range125/134 kHz
(automatic switched by the reader)

Dimensions (height x width x depth)
MC 9090ex-G
231 mm x 91 mm x 193 mm
(9.1 in x 3.6 in x 7.6 inch)

MC 9090ex-K
231 mm x 91 mm x 59 mm
(9.1 in x 3.6 in x 2.3 inch)

Weight
MC 9090ex-G
approx. 850 g (approx. 30 oz)

MC 9090ex-K
approx. 700 g (approx. 22 oz)

Ambient temperature
-20 °C up to +50 °C (-4 °F up to 122 °F)

Surface temperature (Zone 22)
max. +90 °C (max. 194 °F)

Storage temperature
-40 °C up to +70 °C (-40 °F up to 158 °F)

Charging temperature
0 °C up to +40 °C (+32 °F up to 104 °F)

Humidity
5 % to 95 % (non-condensing)

Protection class (EN 60529)
IP 54

Processor
Intel® XScale™ PXA270 prozessor/624 MHz

03-0330-0531/C-11/11-BAT-D291194/1

Memory
RAM/ROM 128/128 MB
Additional memory (SD card)
512 MB, 1 GB, 2 GB on request

Operating system
Windows Mobile 2005 (English)

Power supply
Li-ion battery B7-A2Z0-0006
(2200 mAh/7.4 V)
The battery can be charged and changed in safe areas!

Backup battery
Ni-MH Battery (rechargeable)
15 mAh/3.6 V

Interface
RS232
USB

Application development
SDK available through Symbol Developer Central Website

Audio System
Integrated microphone and loudspeaker

Wireless data communication (WLAN)

Radion standard
IEEE 802.11a/b/g

Data rate/frequenca range
IEEE 802.11a: up to 54 Mbit/s - 5 GHz
IEEE 802.11b: up to 11 Mbit/s - 2.4 GHz
IEEE 802.11g: up to 54 Mbit/s - 2.4 GHz

Output power
100 mW (Germany and International)

Antenna
Integrated in the device

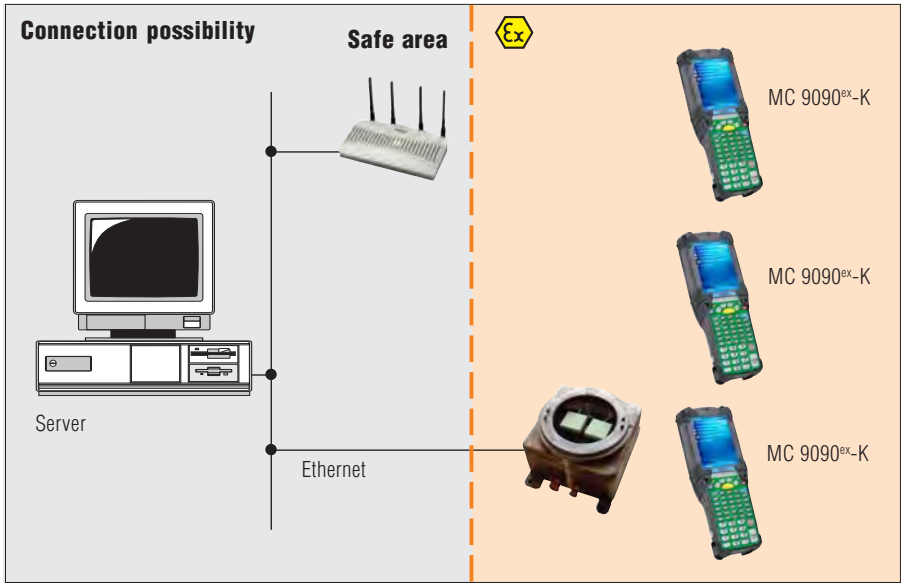
Note
The respective radio frequencies and usable channels depend on the country-specific regulations

Bluetooth (WPAN)

Bluetooth version 1.2 radio with BT Explorer (manager included)

Max. data rate
1 Mbit/s

Antenna
Integrated in the device



Standards supported through Firmware

Btrw-rw.V.1.40.frm	Btrw-hdx.V.1.40.frm	Btrw-ti.V.1.40.frm
HITAG S256	HDX -RO	EM 4450/4550
HITAG S 2 kbit	HDX (Multipage)	EM4xxx(UNIQUE)
HITAG 1	EM4xxx(UNIQUE)	FDX-B
HITAG 2	FDX-B	BDE
Q5	BDE	ISO 11784/5
ATA5567	ISO 117845	ISO Animal
EM4305	ISO Animal	

Selection chart

Type	Code no.	Keys/Designs	Code no.
MC 9090ex-G	G	28 keys, numercic	A
		33 keys, numercic	L
		43 keys, alphanumeric	F
		53 keys alphanumeric	E
MC 9090ex-K	K	53 keys with layout for VT emulation	G
		53 keys with layout for 3270 emulation	H
		53 keys with layout for 5250 emulation	J

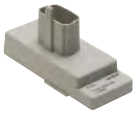
Complete order no. B7-A219-R ☐ 05/HC ☐ FA600
MC 9090ex-G oder -K with internal RFID reader LF including Li-ion battery (1 pc.)
Please insert correct code. All variants without accessories.

03-0330-0531/C-11/11-BAT-D291194/2

Selection chart Accessories for MC 9090ex series

Illustration	Description	Order no.
	Spare battery for ATEX/IECEX Zone 1 7.4 V/2200 mAh Li-ion battery	**17-A1Z0-0001**
	Spare battery for ATEX Zone 2 and Zone 22 7.4 V/2200 mAh Li-ion battery	**B7-A2Z0-0006**
	Additional memory (SD card) ATP Industrial Grade SD Card with 1 GB ATP Industrial Grade SD Card with 2 GB	 **17-28BE-F006/0002** **17-28BE-F006/0003**
	Alternate keyboard with blue overlay for ATEX/IECEx Zone 1 UL Class I, Division 1, Groups C and D UL Class I, II, III Division 1, Groups C, D, F and G with 28 keys with 33 keys with 43 keys with 53 keys with 53 keys for VT Emulation with 53 keys for 3270 Emulation with 53 keys for 5250 Emulation	 **05-0080-0388** **05-0080-0402** **05-0080-0389** **05-0080-0390** **05-0080-0391** **05-0080-0392** **05-0080-0393**
	Alternate keyboard with green overlay for ATEX/IECEx Zone 1 UL Class I, Division 1, Groups C and D UL Class I, II, III Division 1, Groups C, D, F and G with 28 keys with 33 keys with 43 keys with 53 keys with 53 keys for VT Emulation with 53 keys for 3270 Emulation with 53 keys for 5250 Emulation	 **05-0080-0395** **05-0080-0401** **05-0080-0396** **05-0080-0397** **05-0080-0398** **05-0080-0399** **05-0080-0400**
	Leather holster for the MC 9090ex-K to clip on the belt also for use in hazardous area	**03-9809-0010**
	Leather Open-Case for MC 9090ex-G also for use in hazardous area	**03-9809-0009**
	Belt for Open-Case	**03-9809-0011**
	Protective display foil 5 pieces	**17-A1Z0-0003**

Selection chart Accessories for MC 9090ex series

Illustration	Description	Order no.
	Single Slot Cradle for non-hazardous area Docking station for communication with PC For data synchronization; for software installation Including RS232 connection cable Cradle <-> PC Including USB connection cable Cradle <-> PC Charging compartment for Lithium-Ion battery Including power supply unit and power cable	**05-0079-0018**
	Rapid charging station UBC 2000 Base station 4-slot Without battery adapter and batteries Including power supply unit and line cord	**05-0079-0017**
	**Battery adapter** for UBC 2000 for rapid charging station UBC 2000 with discharge function	**03-9919-0007**
	Access Point for hazardous areas Customized solution available on request Power supply - PoE (Power over Ethernet) or 230 V Antenna - internal or external Access Point - customized The exact number of required access points can only be determined by measuring the radio detecting.	**on request**
	Access Point AP 5131 with 11 Mbps DS for Non-Ex area Receiving antenna for radio data transmission Spectrum 24 DS (direct sequence) incl. power supply, line cord 2 single high performance antennas Ethernet connection 10-base T RJ-45 The exact number of access points required can be determined not until radio measurement is completed.	**03-9600-0307**
	Accessories for Access Point	**on request**

MC 95xx^{ex}-NI

for ATEX Zone 2 and 22

Features

- Option of WWAN-GSM-HSDPA/ CDMA-EVDO
- GPS
- WLAN radio standard IEEE 802.11 a/b/g Tri-mode radio standard
- Comprehensive voice-over IP support
- Various barcode applications with different scan engines
- Option of a 3-megapixels camera
- Easy battery changing
- Expanded storage capacity due to replaceable Micro SD card
- Various keypad variants
- Compatibility with the MC95xx from Motorola

Description

The MC 95xx^{ex}-NI offers the characteristic features of the robust MC 9090^{ex} mobile computer series and numerous new capabilities in addition. These were modified specially by BARTEC for use in ATEX Zone 2 and 22 hazardous areas.

The result is a device which sets new standards both in technology and in design: it is an innovative product with an unsurpassed selection of functions which take mobile computing innovation to a completely new level.

The MC 95xx^{ex}-NI offers a more robust design, extended options for data capture, more intelligent functions, greater processing power and better ergonomics.

Thanks to the ergonomically mounted scan triggers on the MC 95xx^{ex}-NI, data can be captured easily in one-hand operation. Several technologies are available for data communication with other systems and company divisions.

- Wireless WAN (WWAN)
- Wireless LAN (WLAN)
- Wireless PAN (WPAN) (Bluetooth)
- IrDA connection

These modules, which are integrated in the device, allow a seamless transmission of voice and data and are easy to integrate into the company's network.

Further advantages when using it are its robust construction, easy-to-read 3.7" VGA colour display with touch technology and a high-performance lithium ion battery.

In the MC 95xx^{ex}-NI, the Marvell PXA320 processor with 806 MHz ensures fast process execution and the Microsoft® Windows Mobile® 6.5 operating system in conjunction with the Enterprise Mobility Developer Kit (EMDK) from Motorola facilitates an easy development of applications.

256 MB RAM integrated in the device and 1 GB flash memory are available for storing user-defined applications and data. For larger applications and volumes of data, BARTEC offers micro SD memory cards.

Market	Applications	Users
Automobile industry Automobile industry (suppliers of paintwork, for paint shops, etc.) **Food and beverages** Suppliers of aromatic substances, etc. **Petrochemicals** from production through further processing to delivery **Pharmaceuticals** (suppliers of the individual components required for the production of e. g. medication)	Material flow monitoring Production control Supplier chain management Incoming/outgoing goods, inventory management Safety tests Spare parts tracking Maintenance/repair work Workshop communication Conformity verification Task allocation	**Dispatch, receiving and stock management departments** Personnel who have been instructed on the handling of potentially explosive substances **Maintenance and repair** Personnel who have been instructed on work in potentially explosive substances. **Production area** Personnel who have been instructed on the handling of potentially explosive substances.

03-0330-0619-11/11-BAT-309541/1

The MC 95xx[ex]-NI Mobile Computer recognises the following bar codes with the 1D Standard Range Scan Engine or the 1D/2D Imager Engine:

1D codes:

Code 11	Interleaved 2 of 5
Code 39	MSI
Code 93	UPCA
Code 128	UPCE
Codabar	UPC/EAN supplementals
Coupon Code	Trioptic 39
Chinese 2 of 5	RSS-14
Discrete 2 of 5	RSS Expanded
EAN-8	RSS Limited
EAN-13	Webcode

2D codes: (only 1D/2D Imager Engine)

Aztec	(Macro) Micro PDF-417
Australian 4-state	Micro PDF-417
Canadian 4-state	microQR
Composite AB	Maxi Code
Composite C	QR Code
Chinese 2 of 5	TLC39
Data Matrix	UK 4-state
Dutch Kix	US Planet
Japanese 4-state	US Postnet
Macro PDF-417	USPS 4-state (US4CB)

Explosion protection

Ex protection type
Ⓔx II 3G Ex ic IIC T6 Gc
Ⓔx II 3D Ex tD A22 IP64 T90°C

Certification
EC Declaration of Conformity
No. B1-A293-7C0001

Technical data

Physical features

Dimensions (lenght x width x depth)
234 mm x 89 mm x 51 mm
9.2 inch x 3.5 inch x 2 inch

Weight (including battery)
623 g (approx. 22 oz.)

Display
3.7" VGA colour display (TFT) with 640 x 480 pixels

Touchscreen
analog-resistive touchscreen made of polycarbonate

Display backlighting
LED technology

Keyboard options modular
- alpha keypad
- numeric (telephony version)
- numeric (calculator version)
- alphanumeric

Notifications
Programmable LEDs
Audio notifications
Vibrator alert

Performance characteristics
CPU Marvell PXA320 at 806 MHz

Operating system Windows Mobile® 6.5 (Classic and Professional)

Memory
256 MB RAM/1 GB Flash
with the option of expansion with Micro SD card: up to 32 GB

User environment

Operating temperature
-20 °C to +50 °C (-4 °F to +122 °F)

Storage temperature
-40 °C to +70 °C at 95 % RH
-40 °F to +158 °F at 95 % RH

Protection class
IP 67

Air humidity
5 to 95 %, non-condensing

Light immunity
Readability

Incandescent lamps	4,844 lux
Sunlight	86,111 lux
Fluorescent lamps	4,844 lux

Battery

Capacity
Rechargeable lithium ion battery
4800 mAh at 3.7 V and state of charge and health indicators

Standby time
150 hours

Talk time
8 hours (minimum/suspend mode)

Voice and data communication over wireless WAN

WWAN wireless module GPS
option of GSM-HSDPA or CDMA-EVDO

Integrated stand-alone or assisted GPS (A-GPS) through SUPL;
SiRFstarIII GSC3f/L chip set

Voice and data communication over wireless LAN

WLAN wireless module
Tri-mode IEEE® 802.11a/b/g

03-0330-0619-11/11-BAT-309541/2

Supported data transmission rates
1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48 and 54 Mbps

Operating channels

Channels 8 - 165	(5040 - 5825 MHz)
Channels 1 - 13	(2412 - 2472 MHz)
Channel 14	(2484 MHz) Japan only

The actual operating channels and frequencies depend on the applicable rules and certification authorities.

Security
WPA2, WEP (40 or 128 bits), TKIP, TLS, TTLS (MS-CHAP), TTLS (MS-CHAP Ver. 2), TTLS (CHAP), TTLS-MD5, TTLS-PAP, PEAP-TLS, PEAP (MS-CHAPv2), AES LEAP, CCXv4 certification, FIPS-140-2 certification

Antenna
internal

Interactive Sensor Technology

Motion sensor
Three-axis accelerometer for motion-sensing applications for dynamic screen orientation, power monitoring and free-fall detection.

■ Data capture options

Available options
1D Laser scanner
1D/2D Imager
1D Laser scanner and camera
1D/2D Imager and camera

■ Colour camera

Resolution
3 megapixels

Illumination
Flash (user-controllable)

Lens
Autofocus

■ 1D laser scanner (SE950)

Range on 100 % UPC-A
60 cm

Resolution
4 mm minimum width

Roll
± 35° from the vertical

Pitch angle
± 65° from normal

Skew tolerance
± 50° from normal

Ambient light immunity
107,640 lux

Scan rate
104 (± 12) scans/sec. (bi-directional)

Scan angle
47° ± 3° standard
35° ± 3° reduced

■ 1D/2D Imager (SE4500SR)

Focal distance
From the centre of the scan window:
SR - 19 cm

Sensor resolution
752 x 480 pixels

Field of view

Horizontal	40°
Vertical	25°

Skew tolerance
± 60°

Pitch tolerance
± 60°

Roll tolerance
360°

Ambient light immunity
96,900 lux

Aiming LED (VLD)
655 ± 10 Nm lasers

Illumination element (LED)
625 ± 5 Nm LEDs (2 x)

Selection chart MC 9590^{ex}-NI without WWAN

Data capture	Code no.	Version Keyboard	Code no.
SE950 1D Laser Scan Engine	A	Alpha Numeric Primary Wide	B
SE4500 1D/2D Imager	B	Alpha Primary	C
SE950 1D Laser with camera	C	Numeric Telephony	D
SE4500 1D/2D Imager with camera	D	Numeric Calculator	E

Complete order no. B7-A293-0 ☐ 0D/A ☐ 100000
MC 9590^{ex}-NI without WWAN including Li-ion battery (1 pc.)
Please insert correct code.

Selection chart MC 9596^{ex}-NI with GSM-HSDPA

Data capture	Code no.	Version Keyboard	Code no.
SE950 1D Laser Scan Engine	A	Alpha Numeric Primary Wide	B
SE4500 1D/2D Imager	B	Alpha Primary	C
SE950 1D Laser with camera	C	Numeric Telephony	D
SE4500 1D/2D Imager with camera	D	Numeric Calculator	E

Complete order no. B7-A293-6 ☐ AE/A ☐ 100000
MC 9596^{ex}-NI with GSM-HSDPA including Li-ion battery (1 pc.)
Please insert correct code.

Selection chart MC 9598^{ex}-NI with CDMA-EVDO

Data capture	Code no.	CDMA-EVDO	Code no.	Version Keyboard	Code no.
SE950 1D Laser Scan Engine	A	Verizon	B	Alpha Numeric Primary Wide	B
SE4500 1D/2D Imager	B			Alpha Primary	C
SE950 1D Laser with camera	C	Sprint	C	Numeric Telephony	D
SE4500 1D/2D Imager with camera	D			Numeric Calculator	E

Complete order no. B7-A293-8 ☐☐ E/A ☐ 100000
MC 9598^{ex}-NI with CDMA-EVDO including lithium ion battery (1 battery).
Please insert correct code.

03-0330-0619-11/11-BAT-309541/4

Selection chart Accessories for MC 95xx^{ex}-NI series

Illustration	Description	Order no.
	Spare battery for MC 95xx^{ex} for ATEX Zone 2 and Zone 22 UL Class I, II, III Division 2 Groups A, B, C, D, F and G 3.7 V/4800 mAh, Li-ion battery	**B7-A2Z0-0011**
	Special tool for the battery latch release for ATEX Zone 2 and Zone 22	**03-5510-0008**
	Expanded Memory certified ATP Industrial Grade Micro SD Card with 1 GB certified ATP Industrial Grade Micro SD Card with 2 GB	 **17-C1Z0-0007** **17-C1Z0-0008**
	Keypad with overlay (green) for ATEX Zone 2 and Zone 22 UL Class I, II, III Division 2 Groups A, B, C, D, F and G with Alpha Numeric keypad with Alpha Primary keypad with Numeric Phone keypad with Numeric Calculator keypad	 **05-0080-0498** **05-0080-0497** **05-0080-0496** **05-0080-0495**
	Protective display foil 5 pcs	**B7-A2Z0-0017**

Selection chart Accessories for MC 95xx^{ex}-NI series

Illustration	Description	Order no.
	Single Slot USB Cradle Kit for non-hazardous area Docking station for communication with PC Including Power supply for data synchronization for software installation	**03-9915-0009**
	Micro USB Active Sync cable Cradle <-> PC	**03-9919-0013**
	AC Line cord - 3 wired - EU	**03-9609-0013**
	AC Line cord - 3 wired - US	**03-9609-0021**
	Single Slot Charging Station Kit for non-hazardous area Including Power supply	**03-9915-0011**
	AC Line cord - 3 wired - EU	**03-9609-0013**
	AC Line cord - 3 wired - US	**03-9609-0021**
	4-Slot Charging Station for Spare Battery for non-hazardous area without accessories for charging of the MC 95xx^{ex} battery	**03-9915-0006**
	Power Supply for 4-slot charger	**03-9911-0015**
	AC Line cord - 3 wired - EU	**03-9609-0013**
	AC Line cord - 3 wired - US	**03-9609-0021**
	Wall Mounting Bracket for 4-slot charger	**03-9869-0015**
	Desk Mounting Bracket for 4-slot charger	**03-9869-0016**
	Spare Stylus 3 pcs	**03-9849-0059**
	Spare Hand strap Set 5 pcs	**03-9849-0060**

03-0330-0646-11/11-BAT-D317013/2

MC 75Ax^{ex}-NI

for ATEX Zone 2 and 22

Features

- Option of WWAN-GSM-HSDPA/ CDMA-EVDO
- GPS
- WLAN radio standard IEEE 802.11 a/b/g Tri-mode radio standard
- Comprehensive voice-over IP support
- Various barcode applications with different scan engines
- Option of a 3.2 megapixels camera
- Easy battery changing
- Expanded storage capacity due to replaceable Micro SD card
- Various keypad variants
- Compatibility with the MC75A from Motorola

Description

The MC 75Ax^{ex}-NI Mobile Computer is a 3.5G Worldwide Enterprise Digital Assistant (EDA) device and was specially modified by BARTEC for use in ATEX Zone 2 and Zone 22 hazardous areas. This means that the extensive communication options which are already standard in other areas are available to the user in hazardous areas also.

Its ergonomic design and easy operation make it an ideal support in attaining fast data availability in enterprise processes. A keypad is available in various variant versions for manual data capture.

Other available data capture options are an integrated 1D or 1D/2D Scan Engine for capturing bar codes and an optional 3.2 megapixel camera.

The ergonomically mounted scan triggers on the MC 75Ax^{ex}-NI allow data to be captured easily in one-hand operation. Several technologies are available for data communication with other systems and company divisions.

- Wireless WAN (WWAN)
- Wireless LAN (WLAN)
- Wireless PAN (WPAN) (Bluetooth)
- IrDA connection

These modules, which are integrated in the device, allow a seamless transmission of voice and data and are easy to integrate into the company's network.

Further advantages when using it are its robust construction, easy-to-read 3.5" VGA colour display with touch technology and a high-performance lithium ion battery.

In the MC 75Ax^{ex}-NI, the PXA320 processor with 806 MHz ensures fast process execution and the Microsoft® Windows Mobile® 6.5 operating system in conjunction with the Enterprise Mobility Developer Kit (EMDK) from Motorola facilitates an easy development of applications.

256 MB RAM integrated in the device and 1 GB flash memory are available for storing user-defined applications and data. For larger applications and volumes of data, BARTEC offers micro SD memory cards.

Market	Applications	Users
Automobile industry Automobile industry (suppliers of paintwork, for paint shops, etc.) **Food and beverages** Suppliers of aromatic substances, etc. **Petrochemicals** from production through further processing to delivery **Pharmaceuticals** (suppliers of the individual components required for the production of e. g. medication)	Material flow monitoring Production control Supplier chain management Incoming/outgoing goods, inventory management Safety tests Spare parts tracking Maintenance/repair work Workshop communication Conformity verification Task allocation	**Dispatch, receiving and stock management departments** Personnel who have been instructed on the handling of potentially explosive substances **Maintenance and repair** Personnel who have been instructed on work in potentially explosive substances. **Production area** Personnel who have been instructed on the handling of potentially explosive substances.

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The MC 75Ax[ex]-NI Mobile Computer recognises the following bar codes with the 1D Standard Range Scan Engine or the 1D/2D Imager Engine:

1D codes:

Code 11	Interleaved 2 of 5
Code 39	MSI
Code 93	UPC-A
Code 128	UPC-E
Codabar	UPC/EAN supplementals
Coupon Code	Trioptic 39
Chinese 2 of 5	RSS-14
Discrete 2 of 5	RSS Expanded
EAN-8	RSS Limited
EAN-13	Web code

2D codes: (only 1D/2D Imager Engine)

Aztec	(Macro) Micro PDF-417
Australian 4-state	Micro PDF-417
Canadian 4-state	Micro QR
Composite AB	Maxi Code
Composite C	QR Code
Chinese 2 of 5	TLC39
Data Matrix	UK 4-state
Dutch Kix	US Planet
Japanese 4-state	US Postnet
Macro PDF-417	USPS 4-state (US4CB)

Explosion protection

Ex protection type
Ⓔx II 3G Ex ic IIC T6 Gc
Ⓔx II 3D Ex tD A22 IP54 T90 °C

Certification
EC certificate of conformity
No. B1-A293-7C0001

Technical data

Physical features

Dimensions (length x width x depth)
WWAN: 7 inch x 3.3 inch x 1.7 inch
178 mm x 84 mm x 44 mm
WLAN: 6 inch x 3.3 inch x 1.7 inch
152 mm x 84 mm x 44 mm

Weight (including 1.5 x battery)
WWAN version:
approx. 423 g (approx. 14.9 oz.)
WLAN version:
approx. 398 g (approx. 14.0 oz.)

Display
transflective colour 3.5" VGA display
(640 x 480 pixels)

Touchscreen
glass analog-resistive touchscreen

Display backlighting
LED technology

Battery (1.5 x)
Rechargeable lithium ion battery
(3.7 V, 3600 mAh, smart battery management)

optional: Battery (2.5 x)
(3.7 V, 4800 mAh, smart battery management)

Backup battery
NiMH battery (rechargeable),
15 mAh, 2.4 V (not accessible from outside)

Extension slot
Micro SD slot with SDHC support
(up to 32 GB)

Network connections
Ethernet (via charging station);
Full-speed USB, host or client

Signalling
Vibrator and LED

Keypad options
Numeric, QWERTY

Audio
VoWWAN; VoWLAN;
TEAM express-compatible; Support for wired and wireless (Bluetooth) headsets;
Headset, handset and speaker modes

Interactive Sensor Technology
Three-axis accelerometer for motion-sensing applications for dynamic screen orientation, power monitoring and free-fall detection.

Performance characteristics

CPU
PXA320 processor at 806 MHz

Operating system
Microsoft® Windows Mobile® 6.5
(Classic and Professional)

Memory
256 MB RAM;1 GB Flash

Interface
RS232, USB 1.1

User environment

Operating temperature
-10 °C to +50 °C (-14 °F to +122 °F)

Storage temperature
-40 °C to +70 °C (without battery)
-40 °F to +158 °F

Air humidity
95 %, non-condensing

Protection class
IP 54

IrDA
Infrared port for connection
to printers and other devices

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Light immunity (readability)

Incandescent lamps	4,844 lux
Sunlight	86,111 lux
Fluorescent lamps	4,844 lux

Battery performance

Standby time
150 hours

Talk time
5 hours

Voice and data communication over wireless WAN

WWAN wireless modul GPS
option of GSM-HSDPA or CDMA-EVDO

Integrated stand-alone or assisted GPS (A-GPS) through SUPL;
SiRFstarIII GSC3f/L chip set

Voice and data communication over wireless LAN

WLAN wireless module
Tri-mode IEEE® 802.11a/b/g

Supported data transmission rates
1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48 and 54 Mbps

Operating channels

Channels 8 - 165	(5040 - 5825 MHz)
Channels 1 - 13	(2412 - 2472 MHz)
Channel 14	(2484 MHz) Japan only

The actual operating channels and frequencies depend on the applicable rules and certification authorities.

Security
WPA2, WEP (40 or 128 bits), TKIP, TLS, TTLS (MS-CHAP), TTLS (MS-CHAP Ver. 2), TTLS (CHAP), TTLS-MD5, TTLS-PAP, PEAP-TLS, PEAP (MS-CHAPv2), AES LEAP, CCXv4 certification, FIPS-140-2 certification

Antenna
internal for LAN, external for WAN

Voice communication
Voice-over IP integrated and ready (P2P, PBX, PTT),
WLAN to IEEE 802.11a/b/g with Wi-Fi™ certification and DSSS

Voice and data communication over wireless PAN

Bluetooth
Class II, Version 2.1 with EDR (Enhanced Data Rate); integrated antenna

Data capture options

Scanning
1D Laser Scanner; 1D/2D Imager; autofocus flash-enabled colour camera (3.2-megapixels) and decoding software for bar codes

Four available options
1D Laser Scanner
1D/2D Imager
1D Laser Scanner and camera
1D/2D Imager and camera

Colour camera

Resolution
3.2 megapixels

Illumination
Flash (user-controllable)

Lens
Autofocus

1D Laser Scanner (SE950)

Range on 100 % UPC-A
60 cm

Resolution
4 mm minimum width

Roll
± 35° from the vertical

Pitch angle
± 65° from normal

Skew tolerance
± 50° from normal

Ambient light immunity
107,640 lux

Scan rate
104 (±12) scans/sec. (bi-directional)

Scan angle
47° ± 3° standard
35° ± 3° reduced

1D/2D Imager (SE4500SR)

Focal distance
From the centre of the scan window:
SR - 19 cm

Sensor resolution
752 x 480 pixels

Field of view

Horizontal	40°
Vertical	25°

Skew tolerance
± 60°

Pitch tolerance
± 60°

Roll tolerance
360°

Ambient light immunity
96,900 lux

Aiming LED (VLD)
655 ± 10 nm laser

Illumination element (LED)
625 ± 5 Nm LEDs (2x)

Selection chart MC 75Ax[ex]-NI without WWAN

Data capture	Code no.	Tastatur	Code no.
1D Standard Range Scan Engine	U	Numeric	R
1D/2D Imager Engine	3		
1D Standard Range Scan Engine and Camera	Y	QWERTY (English)	Q
1D/2D Imager Engine and Camera	4		

Complete order no. B7-A273-0 ☐ OS/W ☐ QA9W00
MC 75Ax[ex]-NI without WWAN including Li-ion battery 1.5 x (1 pc.).
Please insert correct code.

Selection chart MC 75Ax[ex]-NI with GSM-HSDPA (WWAN)

Data capture	Code no.	Keyboard	Code no.
1D Standard Range Scan Engine	U	Numeric	R
1D/2D Imager Engine	3		
1D Standard Range Scan Engine and Camera	Y	QWERTY (English)	Q
1D/2D Imager Engine and Camera	4		

Complete order no. B7-A273-6 ☐ CS/W ☐ RA9W00
MC 75Ax[ex]-NI with GSM HSDPA (WWAN) including Li-ion battery 1.5 x (1 pc.).
Please insert correct code.

Selection chart MC 75Ax[ex]-NI with CDMA-EVDO (WWAN)

Data capture	Code no.	CDMA-EVDO	Code no.	Keyboard	Code no.
1D Standard Range Scan Engine	U	Sprint	E	Numeric R	
1D/2D Imager Engine	3				
1D Standard Range Scan Engine and Camera	Y	Verizon	F	QWERTY (English) Q	
1D/2D Imager Engine and Camera	4				

Complete order no. B7-A273-8 ☐☐ S/W ☐ RA9W00
MC 75Ax[ex]-NI with CDMA-EVDO (WWAN) including lithium ion battery 1.5 x (1 battery). Please insert correct code.

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Selection chart Accessories forMC 75Ax^{ex}-NI series

Illustration	Description	Order no.
	Spare battery 1.5x for MC 75Ax^{ex} for ATEX Zone 2 and Zone 22 UL Class I, II, III Division 2 Groups A, B, C, D, F and G 3.7 V/3600 mAh, Li-ion battery	**B7-A2Z0-0007**
	Spare battery 2.5x for MC 75Ax^{ex} for ATEX Zone 2 and Zone 22 UL Class I, II, III Division 2 Groups A, B, C, D, F and G 3.7 V/4800 mAh, Li-ion battery	**B7-A2Z0-0008**
	Battery door 1.5x for ATEX Zone 2 and Zone 22	**03-9860-0082**
	Battery door 2.5x for ATEX Zone 2 and Zone 22	**03-9860-0083**
	Screwdriver Torx T10 for battery door for ATEX Zone 2/22	**03-5520-0034**
	Expanded Memory certified ATP Industrial Grade Micro SD Card with 1 GB certified ATP Industrial Grade Micro SD Card with 2 GB	**17-C1Z0-0007** **17-C1Z0-0008**
	Protective display foil 5 pcs	**B7-A2Z0-0016**
	Single Slot USB Cradle Kit for non-hazardous area Docking station for communication with PC including Power supply charging compartment for Lithium-Ion battery for data synchronization for software installation	**03-9915-0015**

Selection chart Accessories forMC 75Ax^{ex}-NI series

Illustration	Description	Order no.
	Micro USB Active Sync cable Cradle <-> PC	**03-9919-0014**
	AC Line cord - 3 wired - EU	**03-9609-0013**
	AC Line cord - 3 wired - US	**03-9609-0021**
	4-Slot Charger (Toaster) for non-hazardous area includes Power supply and DC line cable and battery adapter for charging of the MC75Ax^{ex} battery	**03-9915-0012**
	AC Line cord - 3 wired - EU	**03-9609-0013**
	AC Line cord - 3 wired - US	**03-9609-0021**
	Spare Stylus 3 pcs	**03-9849-0061**

MC 9190ex-NI for ATEX Zone 2 and 22

Features

- WLAN radio standard IEEE 802.11 a/b/g
- Various barcode applications with various scan engines
  - 1D Barcode capture up to 12 m
  - 1D/2D Barcode capture up to 9.1 m
- Battery can be changed easily by the user
- Expanded storage capacity with replaceable SD card
- Various variants of replaceable keyboards
- Compatibility with MC9190 from Motorola
- Service contracts

Description

The MC 9190ex-NI Mobile Computer with its pistol grip is a robust device for reliable barcode scanning in hazardous (potentially explosive) areas.

The scan trigger is conveniently positioned at the pistol grip. Thus barcodes can be captured with only one hand. The integrated radio module enables real time data access to your host system.

The MC 9190ex-NI combines the strength of Microsoft's Pocket PC platform with the power of the Marvell PXA320 processor with 806 MHz.

A further highlight is the large easy-to-read 1/4 VGA color display with touchscreen technology. The MC 9190ex-NI is working with the IEEE 802.11a/b/g radio standard (direct sequence).

Market	Applications	Users
Automobile industry (suppliers of paintwork, for paint shops, etc.) **Food and beverages** (suppliers of aromatic substances, etc.) **Petrochemicals** (from production through further processing to delivery) **Pharmaceuticals** (suppliers of individual components required for production e. g. medication)	Material flow monitoring Production control Supplier chain management Incoming/outgoing goods, inventory management Safety tests Spare parts tracking Maintenance/repair work Workshop communication Conformity assessment	**Dispatch, receiving and stock management departments** Personnel who have received instruction on the handling of potentially explosive substances. **Maintenance and repair** Personnel who have received instruction for deployment in potentially explosive areas. **Production area** Personnel who have received instruction on the handling of potentially explosive substances.

Explosion protection

Ex protection type Zone 2
Ⓔx II 3G Ex nA IIC T6
-20 °C ≤ T_a ≤ +50 °C

Ex protection type Zone 22
Ⓔx II 3D Ex tD A22 IP 64 T80 °C
-20 °C ≤ T_a ≤ +50 °C

Certification
EC Declaration of Conformity
No. B1-A283-7C0001 X

Technical data

Keyboard version
28, 43 and 53 keys

Display
3.7", VGA colour display
with touchscreen 480 x 640 pixels

Barcode options

SE1524-ER 1D Long Range Scan Engine
Reading range
up to approx. 13.7 m
up to approx. 45 feet

SE4600 1D/2D Long Range Imager Engine
Extended range omni directional reads 1D and 2D symbols
Reading range close
up to approx. 20 cm
up to approx. 8 inch

Reading range far
up to approx. 9.1 m
up to approx. 30 feet

SE4500-SR 1D/2D Imager Engine
Omni directional reads 1D and 2D symbols
Reading range close
up to approx. 5 cm
up to approx. 2 inch

Reading range far
up to approx. 62 cm
up to approx. 24 inch

SE4500-HD 1D/2D Imager Engine with DPM reads a wide variety of DPM marks on metal, plastic and glass surfaces, including: dot peening, laser etching, molding, stamping or casting.
Reading range close
up to approx. 4 cm
up to approx. 1.6 inch

Reading range far
up to approx. 28 cm
up to approx. 11 inch

Dimensions (height x width x depth)
231 mm x 91 mm x 193 mm
9.1 inch x 3.6 inch x 7.6 inch

Weight
approx. 710 g
approx. 25 oz
depending on version and configuration

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Ambient temperature
-20 °C to +50 °C
-4 °F to +122 °F

Storage temperature
-40 °C to +70 °C
-40 °F to +158 °F

Charging temperature
0 °C to +40 °C
+32 °F to +104 °F

Humidity
5 % to 95 % (non-condensing))

Protection class
IP 64

Processor
Marvell PXA320-Prozessor/806 MHz

Memory
256 MB RAM/1 GB Flash
with the option of expansion with SD card: up to 32 GB

Operating system
Windows Mobile 6.5

Power supply
Li-ion battery B7-A2Z0-0006
with 7.4 V/2200 mAh
The battery can only be charged and changed in the safe area!

Backup battery
Ni-MH battery (rechargeable)

Interfaces
- RS232
- USB

Application development
SDK available

Audio System
Integrated microphone and loudspeaker

Wireless data communication (WLAN)

Radio standard
IEEE 802.11a/b/g

Data rate/frequency range
IEEE802.11a: up to 54 Mbit/s - 5 GHz
IEEE802.11b: up to 11 Mbit/s - 2.4 GHz
IEEE802.11g: up to 54 Mbit/s - 2.4 GHz

Output power
100 mW (US and international)

Antenna
Integrated in the device

Note
The respective radio frequencies and usable channels depend on the country-specific regulations.

Bluetooth (WPAN)
Bluetooth version 2.1 with BT Explorer

Antenna
Integrated in the device

The MC 9190ex-NI Mobile Computers with 1D-Scan Engine or with 1D-/2D-Imager Engine recognise the following barcodes:

1D-Codes:

Code 11	Interleaved 2 of 5
Code 39	MSI
Code 93	UPCA
Code 128	UPCE
Codabar	UPC/EAN supplementals
Coupon Code	Trioptic 39
Chinese 2 of 5	RSS-14
Discrete 2 of 5	RSS Expanded
EAN-8	RSS Limited
EAN-13	Webcode

2D-Codes: (only 1D-/2D-Imager Engine)

Aztec	(Macro) Micro PDF-417
Australian 4-state	Micro PDF-417
Canadian 4-state	microQR
Composite AB	Maxi Code
Composite C	QR Code
PDF-417	TLC39
Data Matrix	UK 4-state
Dutch Kix	US Planet
Japanese 4-state	US Postnet
Macro PDF-417	USPS 4-state (US4CB)

Selection chart

Data capture options		Code no.	Version	Code no.
SE4500-SR	1D/2D-Imager Engine	**3**	28 keys, numeric	**A**
			43 keys, alphanumeric	**F**
SE4500-HD	1D/2D Imager Engine with DPM	**5**	53 keys, alphanumeric	**E**
SE4600	1D-/2D-Long Range Imager Engine	**9**	53 keys with layout für VT emulation	**G**
			53 keys with layout for 3270 emulation	**H**
SE1524-ER	1D-Long Range Scan Engine	**J**	53 keys with layout for 5250 emulation	**J**

Complete order no. B7-A283-0G ☐ 0/SW ☐ QA600
MC 9190ex-NI including Li-ion battery (1 pc.)

Please insert correct code. Technical data subject to change. Note: All variants without accessories.
You will find the accessories with order details on the accessories pages.

03-0330-0622/A-11/11-BAT-D310832/2

Selection chart Accessories for series MC 9190ex-NI

Illustration	Description	Order no.
	Spare battery for MC 9190ex for ATEX Zone 2 and Zone 22 UL Class I, II, III Division 2 Groups A, B, C, D, F and G 7.4 V/2200 mAh, Li-ion battery	**B7-A2Z0-0006**
	Expanded Memory certified ATP Industrial Grade SD Card with 1 GB certified ATP Industrial Grade SD Card with 2 GB	**17-28BE-F006/0002** **17-28BE-F006/0003**
	Protective display foil (5 pcs)	**17-A1Z0-0003**
	Keypad with overlay (green) for ATEX Zone 2 and Zone 22 for UL Class I, II, III Division 2 Groups A, B, C, D, F and G with 28 keys with 43 keys with 53 keys with 53 keys for VT emulation with 53 keys for 3270 emulation with 53 keys for 5250 emulation	 **05-0080-0577** **05-0080-0578** **05-0080-0579** **05-0080-0580** **05-0080-0581** **05-0080-0582**
	Single Slot Cradle Set for non-hazardous area Docking-Station for communication with PC for data synchronization, for software installation; including RS232 connection cable Cradle - PC; including USB connection cable Cradle - PC charging compartment for Lithium-Ion battery; Including power supply unit and line cord (EU)	**05-0079-0018**
	Battery Rapid Charging Station UBC 2000 Base station 4-slot without battery adapter and Batteries; including power supply unit and line cord (EU)	**05-0079-0017**
	Battery adapter for battery rapid charging station UBC 2000 with discharge function	**03-9919-0007**
	Spare Stylus 10 pieces per pack **Spare Stylus** with hand strap 3 pieces per pack **Spare Hand strap Set** 3 pieces per pack	 **03-9849-0021** **03-9849-0043** **03-9849-0049**

Hand-held scanner BCS 3800ex

for 1D-Barcodes

Features

- Insensitive to direct exposure
- High level of impact resistance - robust
- All common barcodes readable
- 270 scans per second
- RS232/RS422 interface via power pack
- Pluggable

Description

As innovative as it is rugged, the BCS 3800ex hand-held scanner from BARTEC delivers the sophisticated ergonomic and operational features industrial applications demand.

The scan line is wider than in conventional laser scanners and accordingly more visible. This makes aiming at the barcode much easier – even on hard-to-access objects.

With its high scanning and decoding frequency of 270 Hz, it can easily read a large number of barcodes in quick succession.

The BCS 3800ex has a robust enclosure that can withstand use in even the toughest conditions.

Even dropping it onto the ground several times from a height of 2 m will not damage this scanner.

Design

The BCS 3800ex hand-held scanner with integrated decoder is designed for the pluggable connection to a power pack. The power pack is for direct installation in hazardous area. The power pack contains an explosion proof module incorporating the intrinsically safe power supply (barriere) and one signal barriere for the data lines.

The data connections are available in the hazardous area - Zone 1 and 21 for connections to non-hazardous host systems (PC, PLC or micro-processor).

Explosion protection

Ex protection type

Ⓔx II 2G Ex ib IIC T4
-20 °C ≤ T_a ≤ +50 °C

Ⓔx II 2D ibD 21 T135 °C
-20 °C ≤ T_a ≤ +50 °C

Certification

IBExU 09 ATEX 1060

Technical data

Ambient temperature
-20 °C up to +50 °C

Storage temperature
-40 °C up to +60 °C

Decode capabilities
all common 1D-barcodes

Scan rate
270 scans per second

Connection power pack
pluggable via 2.1 m connection cable

Light source
Visible red light 630 nm

Reading distance
up to 2.1 m

Weight
approx. 213 g without cable

Humidity
5 % up to 95 % (non-condensing)

Dimensions (height x length x width)
163 mm x 81 mm x 135 mm

Protection class
IP 54

LED safety
LED classification according to DIN EN 60825-1

Operating voltage/power requirements
U = 5 V/210 mA (Standby 60 mA)

Supplied through the appertaining power pack

Accessories for BCS 3800ex
- Extension cable, plug/socket 6 m
- Connection cable
- Bracket for wall or desk mounting

Order no.
Hand-held scanner BCS 3800ex
17-21BA-0024

with 2.1 m spiral cable

03-0330-0532-11/11-BAT-D291433

Power pack for hand-held scanner

for RS232 interface/RS422 interface

Features

- No external isolators needed
- Direct installation in ATEX Zone 1 and 21

Description

The power pack ensures an intrinsically safe supply and isolation of the data line for the BCS 3800ex hand-held scanner.

In the Ex area each power pack is available in three variants:

- AC 100 V up to 250 V
- DC 24 V
- DC 12 V

Both variants are supplied with RS232 and RS422 interface.

In the Ex area in Zones 1 and 21 the power pack is connected to the BCS 3800ex hand-held scanner by means of a plug-in connection.

Selection chart

Description	Order no.
Power pack for the BCS 3800ex hand-held scanner with AC 100 V to 250 V	**17-21BB-1700**
Power pack for the BCS 3800ex hand-held scanner with DC 24 V	**17-21BB-1701**
Power pack for the BCS 3800ex hand-held scanner with DC 12 V	**17-21BB-1702**

Explosion protection

Ex protection type ATEX Zone 1 and 21
Ⓔx II 2G Ex eq [ib] IIC T4
Ⓔx II 2D Ex tD21 IP64 T135 °C
-20 °C ≤ T_a ≤ +60 °C

Certification
IBExU 09 ATEX 1091

Technical data

Ambient temperature
-20 °C up to +60 °C

Storage temperature
-40 °C up to +60 °C

RS232 interface
up to 15 m

RS422 interface
up to 1000 m

Enclosure material
aluminium

Supply voltage/power consumption
AC 100 V up to AC 240 V/approx. 3.3 W
DC 12 V/approx. 3.7 W
DC 24 V/approx. 4.0 W

Input voltage range
AC 90 V up to AC 264 V, 50 up to 60 Hz
DC 10,8 V up to 13,2 V
DC 18 V up to 30 V

Maximum fault voltage
U_m = 253 V

Maximum output voltage
U_0 = 5.5 V

Maximum output current
I_0 = 440 mA

Maximum output power
P_0 = 1.25 W
(trapezoidal characteristic curve)

Maximum external capacitance
C_0 = 55 µF

Maximum internal capacitance
C_i = 2.2 µF

Dimensions (height x length x width)
250 mm x 140 mm x 56 mm

Protection class (EN 60529)
IP 64

03-0330-0533-11/11-BAT-D291434

Selection chart Accessories for hand-held scanner BCS 3800ex

Description	Order no.
Spare connection cable for BCS 3800ex hand-held scanner ■ 1.0 m ■ assembled with plug RJ45 to BCS 3800ex hand-held scanner ■ assembled with ferrule for fixed connection to power pack	**03-9828-0026**
Spare spiral cable for BCS 3800ex hand-held scanner ■ 2.1 m ■ assembled with plug RJ45 to BCS 3800ex hand-held scanner ■ assembled with plug to power pack (pluggable)	**03-9828-0027**
Spare spiral cable for BCS 3800ex hand-held scanner ■ 4.5 m ■ assembled with plug RJ45 to BCS 3800ex hand-held scanner ■ assembled with plug to power pack (pluggable)	**03-9828-0028**
Extension cable (plane) for BCS 3800ex hand-held scanner ■ 6.0 m ■ assembled with plug/coupling	**03-9828-0029**
Extension cable (spiral cable) for BCS 3800ex hand-held scanner ■ 4.5 m ■ assembled with plug/coupling	**03-9828-0031**
Utility box for BCS 3800ex hand-held scanner ■ for table/wall mounting	**03-9849-0054**

03-0330-0645-11/11-BAT-D317012

Features

- Insensitive to direct exposure to normal factory lighting
- High level of impact resistance - robust
- All common barcodes readable
- 35 scans per second
- Free movement during data acquisition, up to a distance of 30 m from the radio receiving station

Radio hand-held scanner BCS 370ex for 1D-Barcodes

Description

As innovative as it is rugged, the wireless radio hand-held scanner BCS 370ex from BARTEC delivers the sophisticated ergonomic and operational features industrial applications demand.

The radio hand-held scanner BCS 370ex is able to easily read all conventional 1D-barcodes. Via the key pad, alphanumerical data can be entered and presented on the display.

The radio hand-held scanner BCS 370ex is equipped with a license-independent software, which offers the user the possibility of manually entering alphanumerical data, scanning all conventional 1D-barcodes and transferring them online via radio to the host system for evaluation and further processing. The BCS 370ex has a robust housing, an internal shock absorber and an ultrasonic welded window.
This means that the BCS 370ex is suitable for the hardest industrial conditions. With these measures the scanner can withstand a drop to concrete of 1.8 m.

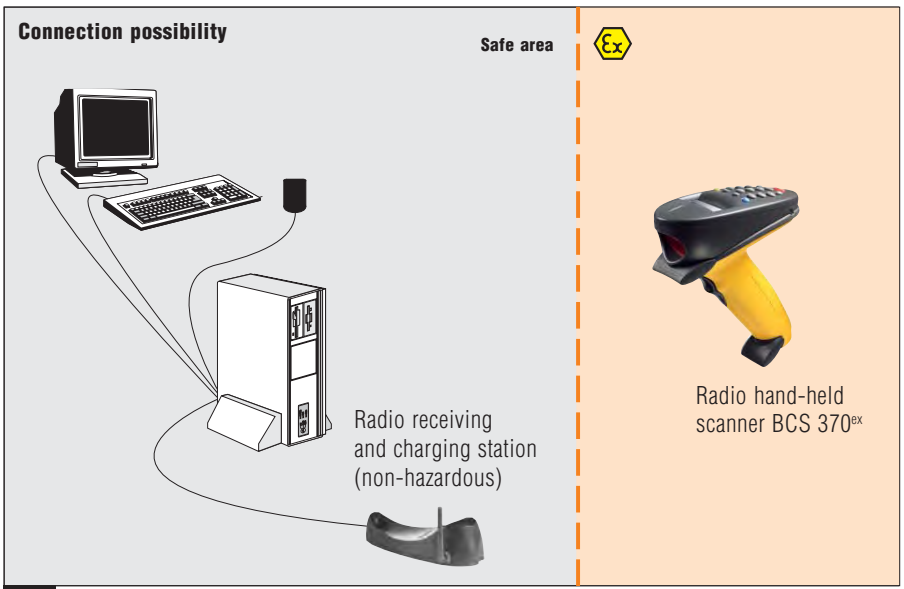
Design

The BCS 370ex radio hand-held scanner with integrated decoder has been designed for wireless real-time data acquisition and allows for a highly efficient operation in production halls, warehouses and other application sites.

During data acquisition, the user is able to freely move within a distance of up to 30 m around the radio receiving station. The BCS 370ex radio hand-held scanner features the intrinsic safety type of protection and can be directly applied in hazardous areas of zone 1 or 2.

Base Station

The charging station (cradle) serves, at the same time, as radio receiving station and is installed in non-hazardous areas. By means of a RS232 cable, the base station can be connected to all conventional hosts.



Explosion protection

Ex protection type
Ⓔx II 2G Ex ib IIC T4

Certification
IBExU 04 ATEX 1060

Technical data

Ambient temperature
-20 °C to +40 °C
-4 °F to +104 °F

Storage temperature
-20 °C to +70 °C
-4 °F to +158 °F

Charging temperatures
0 °C to +40 °C
+32 °F to +104 °F

Keyboard version
17 keys (numeric and switchable alphabetic keys)

Display
2 lines, each with 20 characters

Scan rate
35 scans per second

Scan angle
42° ± 2°

Light source
650 nm laser diode

Scan element type
Retro-collective

Radio specifications

Radio range
max. 30 m
side-by-side with existing Spectrum24 systems

Frequency
2.4 GHz point-to-point narrow band, 82 user-selectable channels

Output power
< 10 mW

Weight
approx. 400 g (approx. 14.1 oz)

Humidity
5 % to 95 % (non-condensing)

Dimensions (height x length x width)
173 mm x 150 mm x 74 mm
6.8 inch x 5.9 inch x 2.9 inch

Protection class
IP 54

Power supply
3.6 V/1100 mAh Li-ion battery
BARTEC Type: 17-21BE-0008

Order no.
BCS 370ex
17-21BA-0021
including Li-ion batterie (1 piece)

Technical data subject to change without notice. Note: All variants without accessories. You will find the accessories with order details on the accessories pages.

03-0330-0395-11/11-BAT-C234378

Features

- Insensitive to direct exposure to normal factory lighting
- High shock resistance - robust
- All common barcodes readable
- 35 scans per second
- Free movement during data acquisition, up to a distance of 30 m from the radio receiving station

Radio hand-held scanner BCS 370ex without keyboard

for 1D-Barcodes

Description

BARTEC's robust wireless BCS 370ex radio hand-held scanner without keyboard offers the advanced ergonomic and functional features required for industrial applications.

The BCS 370ex radio hand-held scanner without keyboard is equipped with licence-independent software which enables the user to scan all standard 1-D barcodes and transmit them online via radio to the central control system for evaluation and further processing.

The BCS 370ex radio hand-held scanner without keyboard is enclosed in a tough casing which can withstand the most stressful conditions.

Even being dropped several times onto concrete from a height of 1.8 m can't harm this scanner.

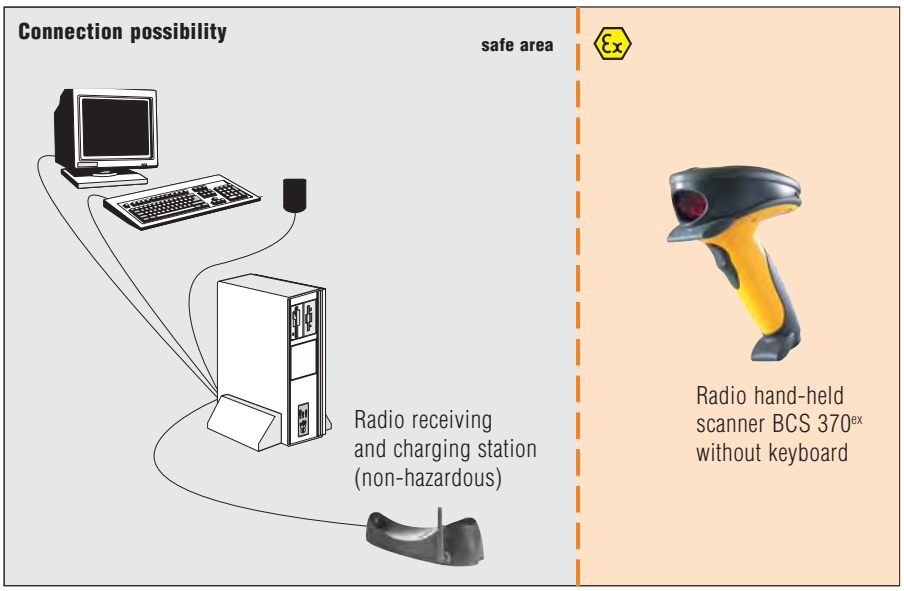
Design

The BCS 370ex radio hand-held scanner without keyboard with integrated decoder has been designed for wireless real-time data acquisition and allows for a highly efficient operation in production halls, warehouses and other application sites.

During data acquisition, the user is able to freely move within a distance of up to 30 m around the radio receiving station. The BCS 370ex radio hand-held scanner features the intrinsic safety type of protection and can be directly applied in hazardous areas of zone 1 or 2.

Base Station

The charging station (cradle) serves, at the same time, as radio receiving station and is installed in non-hazardous areas. By means of a RS232 cable, the base station can be connected to all conventional hosts.


Connection possibility
safe area
Radio receiving and charging station (non-hazardous)
Radio hand-held scanner BCS 370ex without keyboard

Explosion protection

Ex protection type
Ex II 2G Ex ib IIC T4

Certification
IBExU 04 ATEX 1060

Technical data

Ambient temperature
-20 °C to +40 °C
-4 °F to +104 °F

Storage temperature
-20 °C to +70 °C
-4 °F to +158 °F

Charging temperatures
0 °C to +40 °C
+32 °F to +104 °F

Decode capabilities
all common barcodes

Scan rate
approx. 35 scans per second

Scan angle
42° ± 2°

Light source
650 nm laser diode

Scan element type
retro-collective

Radio specifications

Radio range
max. 30 m
side-by-side with existing Spectrum24 systems

Frequency
2.4 GHz point-to-point narrow band, 82 user-selectable channels

Output power
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Weight
approx. 400 g (approx. 14.1 oz)

Humidity
5 % to 95 % (non-condensing)

Dimensions (height x length x width)
173 mm x 150 mm x 74 mm
6.8 inch x 5.9 inch x 2.9 inch

Protection class
IP 54

Power supply
3.6 V/1100 mAh Li-ion battery
BARTEC Type: 17-21BE-0008

Order no.

BCS 370ex without keyboard
17-21BA-0021/0003
including Li-ion batterie (1 piece)

Technical data subject to change without notice. Note: All variants without accessories. You will find the accessories with order details on the accessories pages.

03-0330-0498-05/11-BCS-283576D

Selection chart Accessories for Radio hand-held scanner BCS 370ex

Illustration	Description	Order no.
	Cradle for hazardous area	**on request**
	Cradle for non-hazardous area ■ Docking station for communication with BCS 370ex and the PC ■ For data synchronization ■ For software installation ■ Including RS232 connection cable Cradle <-> PC ■ Charging the BCS 370ex in the Cradle (only in the safe area) ■ Including power supply unit and power cablel	**05-0079-0027**
	Spare battery Explosion protected variant for Zone 1, 2 and 22 3.6 V/1100 mAh, Li-ion battery	**17-21BE-0008**
	Synapse module and synapse cable for grinding in the keyboard ■ Wedge IBM PS/2 synapse cable is required ■ USB Serie A; Default to the HID Keyboard. cable code 50 synapse cable is required ■ Synapse cable: Cradle to the synapse module with 1.8 m length ■ Synapse cable: Cradle to the synapse module with 6.1 m length	 **03-9840-0086** **03-9840-0087** **03-9848-0003** **03-9848-0004**
	Rapid charging station UBC 2000 Base station 4-slot Without battery adapter and batteries including power supply unit and line cord	**05-0079-0017**
	Battery adapter for UBC 2000 rapid charging station UBC 2000 with discharge function	**03-9919-0003**
	Wall-mounting	**03-9849-0013**